CALIFORNIA
ENERGY
COMMISSION

EL SEGUNDO POWER REDEVELOPMENT PROJECT

Application For Certfication (00-AFC-14)
Los Angeles County, California

Part 3
Water Quality - Adoption Order
Pages 221 - 323

REVISED PRESIDING MEMBER'S PROPOSED DECISION

APRIL 2004
(P800-04-008)

PART 3

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WATER QUALITY & SOILS – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Erosion &, Sedimentation	**MITIGATION**	**None**	**Yes**
	Grading and excavation may also create the potential for transport of loosened soils by rainwater or on-site release of fluids. Existing, permanent catchment basins in the facility and temporary containment barriers at the construction-site can control potential sedimentation impacts to Santa Monica Bay. Grading and excavation activities potentially produce dust that can be transported off-site by wind. **MITIGATION:** ☑ Prior to site clearing and grading, the project owner shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Condition: **WATER QUALITY-1** and **WATER QUALITY-2** ☑ Prior to power plant operation the owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the operational phase of the project. Condition: **WATER QUALITY-4** ☑ To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Condition: **AQ-C2** *References: AFC § 5.5- 2; FSA Soil & Water, pp. 4.13-36-37.*		
Prior Contamination: Soil or Water	**MITIGATION**	**None**	**Yes**
	All excavated soil will be characterized and managed according to the Waste Management Plan and the Hazardous Materials and Hazardous Waste Management Plan. If soils are classified as hazardous wastes, the City of El Segundo Fire department and the Los Angeles County Hazardous Materials Division will be notified. Contaminated soils will be transported to a soil recycling facility or a Class I landfill. Impacted groundwater may be encountered during demolition-site preparation and construction phase dewatering. The LARWQCB and DTSC will be notified should there be a determination of contamination. **MITIGATION:** ☑ Contaminated soils will be tested and, if appropriate, treated or disposed of at a Class I landfill. Conditions: **WASTE-5** and **WASTE-6** *References: AFC pp. 5.14-8-9, Tables 5.14-2, 5.14-3, 5.14-3, Appendix S, Appendix N-3; FSA Waste Management 4.12-4-6, 9*		

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Drainage & Water Pollution	**MITIGATION**	**None**	**Yes**
	Stormwater drainage over compacted or graveled surfaces has the potential to impact off-site waterways or sensitive habitats by carrying contaminants deposited on the surface or by channeling volumes of fast moving water. The project will continue established site practices as required by the NPDES Permit for the facility. ESPR will not release any substance onto the power plant site soils that will degrade either surface water quality or groundwater quality. ESGS has existing storage for any hazardous and acutely hazardous materials in secure areas and/or in tanks with catchment basins to retain spills or ruptures. (See **HAZARDOUS MATERIALS.**) **MITIGATION:** ☑ The project owner will handle, treat, and discharge runoff in accordance with its Storm Water Pollution Prevention Plan and NPDES permit. Conditions: **WATER QUALITY-3.** *References: AFC p. 6.13-1, 5; FSA Soil & Water, pp. 4.12-9, 10.*		
Wastewater	**MITIGATION**	**None**	**Yes**
	Wastewater will be generated at the plant in various systems, including circulating water system, evaporative cooler blowdown, heat recovery steam generator blowdown, plant drains, storm water runoff, etc. ESPR will collect all plant wastewater streams at the onsite retention pond and conduct analyses prior to discharge in accordance with its existing NPDES permit. **MITIGATION**: ☑ The project owner will handle, treat, and wastewater in accordance with its existing NPDES permit, revised to include the project. Conditions: **WATER QUALITY-5.** ☑ The project owner shall perform quarterly sampling of the retention pond and provide analytical data summary reports. Condition: **WATER QUALITY-6** *References: AFC p. 6.13-1; FSA Soil & Water, p. 4.12-8.*		

WATER QUALITY – GENERAL

This section analyzes potential effects on water quality and soil resources that could result from construction and operation of the project, specifically focusing on the potential for erosion and sedimentation and degradation of surface and groundwater quality.

Flooding is addressed in the **GEOLOGY** section of this decision. Solid waste and contaminated soil disposal is discussed in the **WASTE MANAGEMENT** section.

Erosion & Sedimentation

Earthmoving activities associated with construction of the proposed project can expose and disturb the soil, leaving soil particles vulnerable to being blown into the air or to being moved by rainwater or spilled liquids. Stormwater runoff, coupled with earth disturbance activities, can potentially cause onsite erosion, potentially resulting in off-site erosion and sedimentation possibly impacting surface waters.

The project is located within a currently developed power generating complex which is largely paved and equipped with drainage gutters and catch basins to collect stormwater runoff.

The power plant and on-site facilities are located within the Oceano soil mapping association, which is composed of sandy soils including beach sands. Very slow runoff, rapid permeability, and high susceptibility to wind erosion characterize these soils. As a result, this soil has low water capacity and chemical properties for nutrient retention.

The majority of the site has been previously graded and is covered with asphalt. An exception is the steep slope between the power units and Vista Del Mar, which is landscaped with vegetation. The steep slope between the power units and Vista Del Mar is 1 (horizontal) to 1 (vertical), and is kept stable via 3 retaining walls that are approximately 6 feet high. Grading for the proposed Units 5, 6, & 7 would be relatively flat, close to existing grade, and sloped to drain toward the site stormwater system. The proposed final elevation would be approximately 20 feet above MLLW.

During initial phases of construction, excavated soils will be temporarily stored in the tank farm area prior to replacement. Following construction, the site will remain paved, and stormwater will continue to flow into the existing stormwater management system for treatment at the oil/water separator before discharge into Santa Monica Bay with the cooling water. The project will make use of the existing tank farm as a component construction area, which is already graded and paved with a containment berm and a drainage system in place.

Offsite staging and construction worker parking areas will be managed using Best Management Practices (BMPs) as designated in the Sediment and Erosion Control Plan. Worker parking and equipment storage will occur at one or more of eight potential offsite locations designated as sites 1 through 8: Kramer, FedEx, LAX Pershing, Marina del Rey Boat Launch, Dockweiler Beach State Park, Hyperion, Grand Avenue, and Chevron Marine Terminal. Of these, Marina del Rey Boat Launch (site 4), Dockweiler Beach State Park (site 5), Hyperion (site 6), and Grand Avenue (site 7) will be solely for worker parking.

The use of the remaining areas will be limited to parking and/or equipment storage, as described below. Assembly or sub-assembly may be performed at any of the following sites:

- Kramer. This area (site 1) may be used for storage of equipment to be installed in the ESPR, and is located approximately 2.2 miles east of the ESGS.

- FedEx. This area (site 2) may be used for parking and for storage of equipment to be installed in the ESPR. It is located approximately 2.5 miles northeast of the ESGS.

- LAX Pershing. This area (site 3) may be used for parking and for storage of equipment to be installed in the ESPR. It is located approximately 1.8 miles north of the ESGS.

- Chevron Marine Terminal. This area (site 8) may be used for storage of equipment to be installed in the ESPR, and is immediately north of the ESGS.

Construction will be regulated under a Sediment and Erosion Control Plan, a construction-related Storm Water Pollution Prevention Plan (SWPPP) and a General Storm Water Permit for Construction. For project operation, an existing SWPPP is being modified to account for site alterations and discharge as regulated under the existing NPDES Permit for the facility.

CONDITIONS:

☑ Prior to site clearing and grading, the project owner shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Conditions: **WATER QUALITY-1** and **WATER QUALITY-2**

☑ Prior to power plant operation the owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the operational phase of the project. Condition: **WATER QUALITY-4**

☑ To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Condition: **AQ-C2**

Prior Soil Contamination

Excavation at the power plant site or along the pipeline route will possibly unearth soils contaminated by prior disposal practices or accidental spills or leaks. If contaminated soil is encountered during construction, such contamination will be assessed using procedures that allow for identification of best disposal options. If the soil is classified as hazardous (according to RCRA and CCR Title 22), the soil will be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. (FSA Soil & Water, p. 4.12-4, 10.)

Site preparation will also include dewatering of the soil after removal of the foundations of existing Units 1 and 2. Groundwater levels will be lowered as much as 14 feet below average levels. Because TPH and VOCs have been detected in groundwater, treatment to meet the waste discharge requirements of the LARWQCB will be required prior to discharge to Santa Monica Bay.

MITIGATION:

☑ Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Conditions: **WASTE-3 to WASTE-6.**

Drainage & Water Contamination

The storm water runoff associated with industrial activity at the existing ESGS is managed in accordance with the site's existing NPDES permit. The storm water runoff that is collected from *outside* bermed or graded storm water collection areas (uncontaminated runoff) is allowed to follow natural drainage patterns. ESGS is currently permitted for storm water treatment and discharge under an existing NPDES Permit and associated operating plans. The proposed project will not make changes to the general storm water drainage system. (FSA Soil & Water, pp. 4.13-6, 14.)

MITIGATION:

- ☑ The project owner will handle, treat, and discharge runoff in accordance with its NPDES permit. Conditions: **WATER QUALITY-2 & WATER QUALITY-3.**

Wastewater

The waste streams that will be generated by the project are similar to existing waste streams, which include boiler blowdown and plant and equipment drains that are currently being treated and discharged in compliance with water quality limits as specified under the existing NPDES Permit.

MITIGATION:

- ☑ The project owner will handle, treat, and discharge wastewater in accordance with its NPDES permit. Condition: **WATER QUALITY-2.**
- ☑ The project owner shall perform quarterly sampling of the retention pond and provide analytical data summary reports. Condition: **WATER QUALITY-6.**

Cumulative Impacts

No other projects are proposed in the vicinity of the power plant and, thus, the project will not result in any cumulative environmental impacts from construction or operational activities.

Findings

With the implementation of the Conditions of Certification, as described in Soil & Water Resources, the project conforms to applicable laws related to water quality and all potential water quality impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

WATER QUALITY-1: Prior to site mobilization, demolition, and/or construction related ground disturbance activities, including linear facilities, the project owner shall develop a Storm Water Pollution Prevention Plan (SWPPP) for the project as required under the NPDES General Stormwater Construction Activity Permit. A copy of the SWPPP and the Notice of Intent (NOI) submitted to the LARWQCB as required under the NPDES General Stormwater Construction Activity Permit regulations shall be provided to the CPM for review and approval. The SWPPP shall include the actual drainage and facility design for all on- and off-site ESPR project facilities for construction, and shall be designed according to the most recent applicable guidelines and checklists set forth by the State Water Resources Control Board Division of Water Quality. The SWPPP shall demonstrate compliance with all applicable Standard Urban Stormwater Mitigation Plan (SUSUMP) requirements. The project owner shall submit the construction SWPPP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both the project owner and to the CPM.

Verification: Sixty days prior to the start of any site mobilization activities and/or ground disturbing activities associated with demolition or construction of the project (including demolition of tanks or Units 1 and 2) or any linear element, the project owner shall submit copies of the construction SWPPP, the NOI, and the transmittal letter to the CPM for review and approval. The SWPPP must be approved, and the transmittal letter and NOI copies received by the CPM prior to the start of site mobilization activities**.**

WATER QUALITY-2: Prior to site mobilization, demolition, and/or construction related ground disturbance activities, including linear facilities, the project owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the construction phase of the project. A copy of the ESCP for construction shall be provided to the CPM for review and approval. The ESCP shall address the actual drainage and facility design for all on- and off-site ESPR project facilities for construction, and shall address all issues detailed in the Staff Recommended Mitigation section of this FSA. The ESCP shall demonstrate compliance will all applicable SUSUMP requirements. The project owner shall submit the construction ESCP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both ESPR and to the CPM.

Verification: Sixty days prior to the start of any site mobilization activities and/or ground disturbing activities associated with demolition or construction of the project or any linear element, the project owner shall submit the ESCP and a copy of the transmittal letter to the CPM for review and approval. The ESCP must be approved, and the transmittal letter received by the CPM prior to the start of site mobilization activities**.**

WATER QUALITY-3: Prior to power plant operation, the owner shall develop a SWPPP as required under the NPDES stormwater discharge permit for operation of the project. The SWPPP shall include the actual drainage and facility design for all on- and off-site ESPR project and linear facilities showing the details of the stormwater and sediment run-off and run-on to the ESPR project facilities during operation. The SWPPP shall

be designed according to most recent guidelines and checklists set forth by the State Water Resources Control Board Division of Water Quality. This plan shall document that the existing and proposed project stormwater facilities have adequate capacity as required by the City of El Segundo. The SWPPP shall be consistent with all other permit and design documents, and shall demonstrate compliance with all applicable SUSUMP requirements. The project owner shall include in this plan the installation of secondary containment for the entire site, excluding off-site and linear facilities. The containment design shall have design documentation and specifications for the berms or other walled structures. The project owner shall submit the operational SWPPP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both the project owner and to the CPM. The operational SWPPP shall be approved, and the transmittal letter received by the CPM prior to the start of operation.

Verification: Sixty days prior to the start of operation, the project owner shall submit copies of the SWPPP and the transmittal letter to the CPM for review and approval. The SWPPP must be approved, and the transmittal letter received by the CPM prior to power plant operation.

WATER QUALITY-4: Prior to power plant operation, the owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the operational phase of the project. The ESCP shall include the actual drainage and facility design for all on- and off-site ESPR project and linear facilities showing all of the details of stormwater and sediment run-off and run-on to the ESPR project facilities during operation. The ESCP shall address all issues detailed in the Staff Recommended Mitigation section of this FSA. The ESCP shall be consistent with all other permit and design documents, and shall demonstrate compliance with all applicable SUSUMP requirements. The project owner shall include in this plan the installation of secondary containment for the entire site, excluding off-site and linear facilities. The containment design shall have design documentation and specifications for the berms or other walled structures. The project owner shall submit the operational ESCP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both ESPR and to the CPM. The operational ESCP shall be approved, and the transmittal letter received by the CPM prior to the start of operation.

Verification: Sixty days prior to the start of operation, the project owner shall submit a copies of the ESCP and the transmittal letter to the CPM for review and approval. The ESCP must be approved, and the transmittal letter received by the CPM prior to power plant operation.

WATER QUALITY-5: The project owner shall maintain in effect the National Pollutant Discharge Elimination System (NPDES) Permit from the LARWQCB for the life of the ESPR project. The project owner shall comply with all provisions of the NPDES Permit, and shall notify the CPM of any proposed or actual changes made to this permit and provide copies of materials related to permit amendment, modification, and renewal, and of any changes to the project design or operational plan necessary to comply with the NPDES permit changes. All exceedences, permit violations, and

enforcement actions shall be reported and discussed in the annual Compliance Report to the CPM. All NPDES enforcement actions against the project shall be reported to the CPM by letter within 30 days of the project being notified by LARWQCB. The project shall not operate without the NPDES permit in place.

Verification: Within 30 days following receipt of a new, amended, or modified NPDES Permit from the LARWQCB, the project owner shall submit a copy of the new permit to the CPM. The Annual Compliance report shall include a copy of NPDES compliance monitoring reports submitted to the LARWQCB, reporting NPDES permit exceedences, violations, and enforcement actions taken against the project owner, and a discussion of the measures taken by the project owner to bring the project into compliance with the NPDES permit. The CPM shall be notified by letter of NPDES permit enforcement actions within 30-days of the project being notified by the LARWQCB. The project owner shall notify the CPM in writing of any changes made to this permit, and of any changes to the project design or operational plan necessary to comply with NPDES permit revisions.

WATER QUALITY-6: The project owner shall perform quarterly sampling of the retention pond and provide analytical data summary reports consistent with those required by the NPDES permit in the Annual Compliance Report to the CPM. These samples shall be collected and analyzed for parameters consistent with the NPDES permit monitoring requirements for the retention pond, and all exceedences and violations, and actions taken to avoid their reoccurrence shall be discussed in detail.

Verification: The quarterly reporting and discussion shall be included in the Annual Compliance Report to the CPM for the life of the project.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WATER QUALITY & SOILS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Water Act; 33 U.S.C. §1251 et seq.	Regulates discharges of wastewater and stormwater. Applies to wastewater discharged from cooling tower basins and stormwater runoff. These discharges are subject to NPDES permits obtained through the RWQCB at the state level.
STATE	
Porter Cologne Water Quality Control Act, Water Code §13000 et seq.	Established jurisdiction of nine RWQCBs to control pollutant discharges to surface and groundwater.
SWRCB Water Quality Order Nos. 91-13-DWQ and 92-08-DWQ	Regulates industrial stormwater discharges during construction and operation. These discharges subject to NPDES permits obtained through the RWQCB.
Safe Drinking Water and Toxic Enforcement Act (Prop. 65)	Prohibits the discharge of any substance known to cause cancer or birth defects to sources of drinking water.
LOCAL	
RWQCB	Responsible for controlling water quality.

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WATER RESOURCES – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Water Supply Policy	**CONDITION**	**NONE**	**YES**
	The project will use ocean water for power plant cooling purposes. Reclaimed water will be utilized for other high volume uses. State water policy disfavors the use of inland fresh water for power plant cooling. **CONDITION:** ☑ The project owner shall use reclaimed water for all in-plant process water needs except where excepted or not feasible. Conditions: **WATER RES-1 and WATER RES-2** *References: AFC p. 5.5-9; FSA Soil & Water Resources, pp. 4.13-38*		

WATER RESOURCES – GENERAL

The project will use ocean water through the existing once-through cooling system. Potable and service water for the project will be provided by the City of El Segundo and the Metropolitan Water District of Southern California (approximately 104 AFY). Reclaimed water, to be used for make-up and steam injection, will be provided by the West Basin Municipal Water District at approximately 120 AFY. Project owner has agreed to evaluate, during final design, other uses of reclaim water.

Water Supply Policy

California Water Code section 13550 *et seq*., and SWRCB Resolution 75-58 identify the use of potable or fresh inland water for power plant cooling as unreasonable use and only to be used if other sources or other methods of cooling would be environmentally undesirable or economically unsound. ESPR fully complies with these requirements by using ocean water for one-through cooling.

During the AFC process, parties expressed concern about the amount of inland water to be used at the project site. In light of these concerns, the project owner agreed to use reclaimed water for all high volume water needs, other than the once through cooling system. Fresh water will be used at the plant for drinking water and other sanitary uses. The project owner agreed to conduct an evaluation, as part of final project design, of other potential uses of reclaimed water in the facility.

Potable Water Use

Several parties expressed concerns over the scarcity and importance of potable water in Southern California. Using reclaimed water as a replacement for potable water uses is beneficial to potable water resources. ESPR will used reclaimed water for make-up feed water and combustion turbine steam injection water, the two largest uses of water at the facility other than cooling the steam condensers, which relies upon sea water. The project

will actually result in a reduction in potable water consumption at the El Segundo Generating Station with those reclaimed uses. However, the Applicant agreed to a Condition of Certification that requires the use of reclaimed water for all in-plant process water needs, except certain excluded uses and where the project owner can demonstrate such use is not feasible. This condition eliminated the parties' concerns over potable water consumption.

The parties also agreed upon a condition requiring that only the sources of water contained within the project description (i.e., potable water from the City of El Segundo and reclaimed water from West Basin Municipal Water District) would be used at the site and that the project owner would be required to document and report various data related to water use.

CONDITION:

☑ The project owner shall use reclaimed water for all in-plant process water needs except where excepted or not feasible. Conditions: **WATER RES-1 and WATER RES-2.**

Cumulative Impacts

ESPR's use of sea water for cooling and reclaimed water for major in-plant process water needs eliminates the potential for cumulative impacts. The proposed project actually reduces potable water consumption at the generating station. Therefore, no cumulative impacts are identified in this section.

Findings

With the implementation of the Conditions of Certification, as described in Water Resources, the project conforms to applicable laws related to water resources and all potential water resource impacts will be mitigated to insignificance.

CONDITION OF CERTIFICATION

WATER RES-1: The project owner shall use reclaimed water for all in-plant process water needs, except those specifically excluded uses, unless it can be demonstrated that its use is not compatible with any particular application. Specifically excepted from using reclaimed water are fire control water, sanitary water, potable water, and once-through cooling water. The project owner shall submit a Reclaimed Water Use Plan (RWUP) that includes a detailed revised project design, operational plan, water balance, and heat balance for the use of reclaimed water for review and approval by the CPM prior to the start of any site mobilization activities for the project or any linear element. This RWUP shall be consistent with all applicable LORS, including Title 22 California Code of Regulations.

All in-plant water needs that the project owner claims cannot be met using reclaimed water, other those excepted, shall be identified and a discussion of the infeasibility of reclaimed water use for these needs shall be included in the RWUP for review and approval by the CPM. Site mobilization activities shall not begin without a CPM approved RWUP.

Verification: The project owner shall submit the RWUP to the CPM for review and approval sixty day prior to the start of any site mobilization activities associated with the project or any linear elements. The RWUP must be approved by the CPM before the start of site mobilization.

WATER RES-2: Only potable water from the City of El Segundo or reclaimed water from the West Basin Municipal Water District shall be used by the project for uses other than once-through cooling. The process water supply shall be reclaimed water. A backup water supply has not been included in the project design or operational plan, and the project shall not operate during periods when reclaimed or potable water is not available in sufficient quantities from the primary supply sources. The project owner shall report the periods of non-operation due to unavailability of water from any source in the Annual Compliance Report.

The project owner shall install on-site metering and recording devices and record on a monthly basis all water used by the ESPR, except water used for once-through cooling, including the amount of reclaimed, and non-reclaimed water used by the project, with the source and amount of all reclaimed and non-reclaimed water identified. The annual summary shall include the monthly range, monthly average, and total amounts of reclaimed and non-reclaimed water identified by amount and source used by the project in both gallons-per-minute and acre-feet. Following the first year of operation, the annual summary shall also include the yearly range and yearly average of reclaimed and non-reclaimed water identified by amount and source used by the project. This information shall be supplied to the CPM in the Annual Compliance Report for review and approval for the life of the project.

Verification: No less than 60 days prior to the start of operation of ESPR, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the pipelines serving and within the project. These metering devices shall be capable of differentiating between uses of these supplies by ESPR in order to report water demand. The project owner shall provide a report on the servicing, testing and calibration of the metering devices and operation in the annual compliance report. The project owner shall submit the required water use summary to the CPM for review as part of the Annual Compliance Report for the life of the project.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WATER RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
STATE	
State Water Resources Control Board Policy 75 – 78; California Water Code, Sections 461 and 13552, and by Water Commission Resolution 77-1	SWRCB Resolution 75-58, discourages the use of fresh inland water for power plant cooling and prioritizes the source water of power plant cooling water: (1) wastewater discharge to the ocean, (2) ocean water, (3) brackish water from natural sources or irrigation return flow, (4) inland waste waters of low TDS, and, lastly, (5) other inland waters.
LOCAL	

ALTERNATIVES – Summary of Findings

Alternative Sites	THE PRE-EXISTING GENERATING SITE IS PREFERABLE TO ANY ALTERNATIVE
	No alternative site is preferable to the ESGS site because a key objective of the project is to utilize the existing resources at ESGS more efficiently. The proposed site creates no impacts that cannot be mitigated to a level of insignificance and continues a pre-existing industrial site. *Reference: AFC 4-12; FSA 6.7*
Alternative Design	NO ALTERNATIVE DESIGN IS PREFERABLE
	The Applicant reviewed alternative air pollution control technologies. Dry low NOx technology and selective catalytic reduction (SCR) were preferable to any other available post-combustion NOx control. CEC Staff proposed an alternative cooling system using reclaimed water from the Hyperion Wastewater Treatment Plant for once-through cooling. The alternative is unnecessary since the proposed project with the annual flow cap condition does not cause a physical change to the environmental setting, and it Is infeasible. *Reference: AFC p. 4-13, p. 31; FSA 6-10; CEC Staff's Cooling Options Report; Applicant's Writ. Test. pp 37-44; Applicant's Rebuttal Test., pp pp.5-28*
Alternative Technology	NO ALTERNATIVE TECHNOLOGY IS PREFERABLE & FEASIBLE
	Alternative technologies include wind, solar, geothermal, and biomass. Solar technology requires a large amount of land, to produce the same amount of electricity. Geothermal resources are too far away. Biomass facilities are typically smaller than the capacity of the project and typically produce greater emissions than the equivalent gas-fired combustion turbine technology. Wind potentially creates numerous impacts and also requires a large amount of land with reliable and adequate wind energy resources. *Reference: pp; AGC 4-6, pp. 6-11,12*
"No Project" Alternative	THE "NO PROJECT" ALTERNATIVE IS INFERIOR TO PROPOSED PROJECT
	The "no project" alternative causes the existing plant to remain and fails to provide needed generation inside the Los Angeles Urban Area load center. Units 1 and 2 remain consuming natural gas supplies less efficiently. Exhaust stack height is not reduced. The "no project" alternative would eliminate the expected economic benefits which the proposed project would bring to the local economy. *Reference: AFC 4-4, pp.6-12, 13.*

ALTERNATIVES – GENERAL

The Energy Commission's Power Plant Siting Regulatory Program is a "certified regulatory program" under CEQA. With regard to the "Alternatives" analysis required in a certified siting

proceeding, the CEQA Guidelines (Cal. Code Regs., tit. 14, §15252) state that the environmental documentation shall include either:

- Alternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment, or
- A statement that the agency's review of the project showed that the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment. This statement shall be supported by a checklist or other documentation to show the possible effects that the agency examined in reaching this conclusion."

The Warren-Alquist Act specifies that an Application for Certification of a natural gas-fired power plant "modification" (such as the ESPR project) is not required to provide any information in its application on alternative sites for the proposed facility. (Pub. Resources Code, §25540.6(a) and (b)). However, the Energy Commission's Siting Regulations (Cal. Code Regs., tit. 20, §1765) require that:

> At the hearings...on an application exempt from the [Notice Of Intent] requirements pursuant to Public Resources Code section 25540.6, the parties shall present information on the feasibility of available site and facility alternatives to the Applicant's proposal which substantially lessen the significant adverse impacts of the proposal on the environment.

The Energy Commission staff presented information in its Staff Assessment on the "feasibility of available site and facility alternatives to the Applicant's proposal that substantially lessen the significant adverse impacts of the proposal on the environment" (Cal. Code Regs., tit. 20, §1765). Staff also analyzed whether there are any feasible alternative designs or alternative technologies, including the "no project alternative," that may be capable of reducing or avoiding any potential impacts of the proposed project while achieving its major objectives.

Alternative Sites

Consistent with the CEQA Guidelines, the consideration of alternative sites was guided by whether most project objectives could be accomplished at alternative sites and whether locating the project at an alternative site would substantially lessen any identified potential impacts of the project [Cal. Code Regs., tit. 14 §15126.6(a).]

The primary goal of the proposed project is to repower two older units at ESGS. Thus, alternative sites, by definition would not achieve a primary goal of the project. Moreover, the replacement of Units 1 and 2 brings with it numerous enhancements including lower exhaust stack heights, new modern visual aesthetics, and a new ammonia pipeline to eliminate ammonia truck deliveries. For these reasons, sites not at ESGS would likely not decrease impacts, but probably increase them. Since an alternative site not at ESGS would reduce the ability of the project to meet its basic objectives and potentially increase some potential

project impacts, the Commission did not find it appropriate to conduct a more detailed evaluation of potential alternative sites in this industrial area.

Alternative sites within the generating facility lack sufficient space to develop a combined cycle facility of this magnitude. The tank farm area, which might conceivably accommodate the project is not acceptable because of its proximity to the residences and beaches of the City of Manhattan Beach. The tank farm serves as a buffer zone between generating facility and residential land uses to the south.

Industrial land uses are present east of the ESGS. Locating the project in this area would require new transmission lines. The Chevron refinery lacks space to accommodate the project. The project does not require any new transmission lines. Moving the project to a location not on the existing transmission line would result in new transmission lines. The transmission line itself is adjacent to residential and commercial zones.

Locating a similar project at an alternative location would not substantially reduce any of the potential impacts of the project. All of the potential significant impacts of this project have been mitigated to a level of insignificance by the Conditions of Certification of this Decision.

Based on these factors, the Commission concludes that an alternative site would not be preferable to the proposed site, and a more detailed alternative site analysis is not needed. (FSA Alternatives, pp. 6-7.)

Alternative Design

Air pollution control technology was considered with primary emphasis on processes with demonstrated successful performance. Although SCONOX for NOx control has been described as a promising technology, it has limited usage to date. A conventional selective catalytic reduction (SCR) installation with ammonia injection is a proven technology and is supported by the existing ammonia systems on-site for Units 3 and 4 at ESGS. A dry low-NOx system was also selected on the manufacturer's recommendation. (AFC pp.4-13, p. 31)

CEC Staff proposed an alternative cooling design in its Cooling Options Report. This alternative would replace the seawater in the once-through cooling system with reclaimed water piped to and from the Hyperion Treatment Plant (HTP) north of ESGS. The Commission finds the wastewater alternative to be infeasible. The primary problems with the wastewater alternative were: constructing an adequately sized pipeline in the already congested area beneath Vista Del Mar Avenue, ensuring that the cooling medium would have adequate cooling capacity, maintaining and operating a system using the low quality liquid that would theoretically be available from HTP, whether HTP would provide the fluid for the project, discharging the heated fluid into Santa Monica Bay under environmental constraints for bacterial wastes and for thermal discharges, and ensuring that adequate cooling medium was consistently available to allow for reliable operation of the power plant. All of these areas were sufficiently problematic to find the alternative infeasible. Given the Commission's conclusion that the Hyperion wastewater alternative is not feasible, it is clear that the alternative is not a preferable project design. (See **BIOLOGY.**)

Alternative Technology

Energy Commission staff compared various alternative technologies to the proposed project, scaled to meet the project's objectives. One of the key objectives of the project is to replace units 1 and 2 with more efficient generation, expanding the production of electricity while not expanding environmental impacts. This key objective made other alternative technologies infeasible. These other alternative technologies include Solar, Geothermal, Biomass, and Wind.

Solar thermal generation technologies do not provide the continuous reliable power that is one of the key objectives for the project. Solar resources also require large land areas in order to generate electricity. Specifically, utility scale solar projects require between four and ten acres per megawatt depending on the type of system (parabolic trough, parabolic dish, or central receiver systems) (CEC 1996, pp. B.14.1, B.15.1-2). A solar project comparable to the proposed project would require hundreds of acres, much more than the amount of space available for the proposed project. Since solar technology cannot provide continuous reliable power and requires a large land area, it does not provide a feasible alternative to the proposed project.

Geothermal resources are not available in the Los Angeles coastal area. While development of additional geothermal resources in California is possible, geothermal power resources are not available in close enough proximity to ESGS to allow such a project to provide energy to ESGS.

Biomass plants are typically under 50 MW, substantially smaller than the expected capacity of the proposed project. Emissions from biomass projects are also typically greater than from gas-fired projects. For these reasons, biomass power does not provide a feasible alternative to the proposed project.

Windpower requires substantial areas of land with adequate wind resources. Modern wind generators would create a substantial visual signature along the Santa Monica Bay shoreline that could potentially be a significant impact.

"No Project" Alternative

CEQA Guidelines and Energy Commission regulations require consideration of the "no project" alternative. This alternative assumes that the project is not constructed, and compares that scenario to the proposed project. A determination is made whether the "no project" alternative is superior, equivalent, or inferior to the proposed project.

If the proposed project is not built, the existing Units 1 and 2 would remain, the efficiency of ESGS would not improve, and new generation capacity would not be provided to supply the Los Angeles basin load center. The project also offers economic benefits. The "No Project"

alternative would also eliminate the expected economic benefits, which the proposed project would bring to the region.

The “No Project” alternative is not superior to the proposed project.

Findings

The Commission has analyzed alternatives to the project design and related facilities, alternative technologies, and the “no project” alternative. Developing the project at an alternative site would defeat a core goal and objective of the project. An alternative site would not substantially lessen the potential impacts of the project, which are mitigated to insignificance by the Conditions of Certification. The Commission does not believe that alternative designs are feasible or offer a necessary or relatively valuable reduction in impacts. The Commission does not believe that alternative technologies present feasible alternatives to the proposed project. The “no project” alternative will not meet need for new reliable electricity and would continue the use of the less efficient units 1 and 2. The "no project" alternative would also cause the loss of local economic benefits. Therefore, the “no project” alternative is inferior to the proposed project.

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EFFICIENCY – Summary of Findings

Local/Regional Energy Supplies	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project will combust natural gas as its sole fuel. The SoCalGas gas supply infrastructure is extensive, offering access to vast reserves of gas from California, the Rocky Mountains, Canada, and the Southwest. It is therefore highly unlikely that the project could pose an adverse effect on energy supplies and resources. *References: AFC §§ 1.1, 3.1, 3.4.6, 5.19.4.1; FSA Efficiency, pp. 5.3-2-4.*
Energy Consumption Rate	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project will employ state-of-the-art technology, with an overall fuel efficiency of approximately ~~49.6~~ 55.4 percent. While it will consume substantial amounts of natural gas, 108 billion BTU per day, it will do so in the most efficient manner practicable. *Reference: AFC 5.Figure 3.4-1; FSA Efficiency, pp. 5.3-2-4.*

EFFICIENCY - GENERAL

CEQA Guidelines state that the environmental analysis "…shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy" (Cal. Code Regs., tit. 14, §15126.4(a)(1)). Appendix F of the Guidelines further suggests consideration of such factors as the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient and unnecessary consumption of energy (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix F).

El Segundo Power II LLC will construct and operate a nominal 630 MW combined cycle merchant power plant to generate baseload and peaking power, selling directly to customers through bilateral contracts on the spot and term markets. The project will consist of two General Electric (GE) PG7241FA combustion turbine generators (CTGs) with evaporative inlet air coolers and steam injection producing approximately 172 to 183 MW each, two heat recovery steam generators (HRSGs) with duct burners, and one 288 MW reheat steam turbine generator, arranged in a two-on-one combined cycle train, totaling approximately 630 MW. The gas turbines and HRSGs will be equipped with dry low-NOx combustors and selective catalytic reduction (SCR) to control air emissions. The project includes demolition and removal of El Segundo Generating Station (ESGS) Units 1 and 2, a pair of 1950s vintage 175 MW steam boiler units (AFC §§1.1, 1.2, 1.3.2, 3.1, 3.4.1, 3.10.2, 4.2, 4.3, 4.5.1; FSA 5.3-1-3).

Local/Regional Energy Supplies

The project will burn natural gas from the existing Southern California Gas Company (SoCalGas) pipeline that currently serves the ESGS. The SoCalGas gas supply infrastructure is extensive, offering access to vast reserves of gas from California, the Rocky Mountains, Canada, and the Southwest. It is therefore highly unlikely that the project could pose a substantial increase in demand for natural gas in California.

The natural gas fuel will be supplied by the existing 20-inch diameter pipeline by which SoCalGas serves the ESGS. SoCalGas claims that this line should provide adequate access to natural gas fuel. There is no real likelihood that the project will require the development of additional energy supply capacity. Therefore, the project will not pose a substantial increase in demand for natural gas in California.

Energy Consumption Rate

ESPR will utilize two General Electric model PG7421FA combustion turbines. Modern gas turbines embody the most fuel-efficient electric generating technology available today. From published data, this machine typically provides efficiency values between 40-42 percent. With evaporative inlet air coolers, steam injection and two HRSGs with duct burning, overall plant efficiency is nominally rated at 56.5 percent. ESPR will burn natural gas from Southern California Gas at a nominal heat rate of rate of 7500 Btu/Kw hour (full duct firing). (AFC 5.20-1; FSA Effic., p. 5.3-4)

No standards apply to the efficiency of the project since ESPR has not proposed that the project be considered as a Qualifying Facility cogeneration project.

Cumulative Impacts

There are no nearby power plant projects that hold the potential for cumulative energy consumption impacts when aggregated with the project. Construction and operation of the project will not bring about indirect impacts, in the form of additional fuel consumption, that would not have occurred but for the project. While the project will consume substantial amounts of energy, it will do so in the most efficient manner practicable. It will not create significant adverse effects on energy supplies or resources, and will not consume energy in a wasteful or inefficient manner. Therefore, no cumulative impacts on energy resources are likely and the project will not present significant adverse impacts. (FSA 5.3-6.)

Finding

Without Conditions of Certification, the project conforms to applicable laws related to efficiency; and all potential adverse impacts regarding the efficient consumption of energy will be mitigated to insignificance by other Conditions of Certification of this Decision.

CONDITIONS OF CERTIFICATION

None.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

EFFICIENCY

APPLICABLE LAW	DESCRIPTION
STATE	
Title 14, California Code of Regulations, § 15126.4(a)(1)	CEQA Guidelines state that the environmental analysis "…shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy" (Cal. Code Regs., tit. 14, § 15126.4(a)(1)). Appendix F of the Guidelines further suggests consideration of such factors as the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient and unnecessary consumption of energy (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix F).

FACILITY DESIGN – Summary of Findings and Conditions

Engineering - General	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To protect public health and safety as well as the viability of the project, the applicable power plant equipment, pipelines, and other non-transmission line structures shall be designed and constructed in accordance with the ~~1998~~ 2001 California Building Standards Code, or its successor. The Chief Building Official ~~Officials of the City of El Segundo~~ shall review and approve the relevant design criteria and plans submitted by ESPR and conduct all necessary inspections. **CONDITION:** ☑ ESPR shall construct the project using the most recent California Building Standards Code with the oversight and approval of the ~~local~~ Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**. *Reference: FSA Fac. Design, pp. 5.1-2-6.*
Engineering Geology	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To fully describe the geologic conditions of the power plant site, ESPR shall prepare an Engineering Geology Report pursuant to the California Building Code. During site grading, a designated Engineering Geologist shall monitor for any adverse soil or geologic conditions. Conditions: **GEO-1** through **GEO-4.** **CONDITIONS:** ☑ ESPR shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Condition: **GEO-5**. ☑ ESPR shall conduct a detailed slope stability analysis of the project site and linear facilities prior to the completion of the final design for the project. Condition: **GEO-3.** *Reference: FSA Fac. Design, pp. 5.1-2-6.*

Civil Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To ensure erosion and sedimentation control, among other things, ESPR shall submit a site grading and drainage plan. (See also **WATER QUALITY-1**) To ensure proper conditions for foundations and other features, any adverse soil or geologic conditions shall be reported and corrected during site grading. **CONDITIONS:** ☑ ESPR shall submit grading plans and erosion/sedimentation control plans, perform inspections and submit as-built plans for approval. Conditions: **CIVIL-1** & **CIVIL-4**. ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2.** *Reference: FSA Fac. Design, pp. 5.1-14-15.*
Structural Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Major structures and equipment are those necessary for power production, costly or time-consuming to repair, ~~or~~ those used for the storage of hazardous materials, or those that may become potential health and safety hazards if not constructed to applicable engineering LORS. The AFC lists the design criteria essential to ensuring that the project is designed in a manner that protects the environment and public health and safety. **CONDITION:** ☑ For earthquake safety of major structures, foundations, supports, anchorages, and tanks, ESPR will submit appropriate lateral force calculations, designs and plans to the Chief Building Official for approval. In addition, to ensure the safety of storage tanks, some of which contain hazardous materials, ESPR will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC-1** through **STRUC-4**. *Reference: FSA Fac. Design, pp. 5.1-15-18.*
Mechanical Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The mechanical systems include not only the power train with its major components but also water and wastewater treatment facilities, pressure vessels, piping systems and pumps, storage tanks, air compressors, fire protection systems, heating and ventilation, and water and sewage. The AFC lists and describes the mechanical codes and design criteria applicable to these systems. **CONDITION:** ☑ To ensure the safety of piping and pressure vessels, some of which transport or store hazardous materials, ESPR will submit plans and specifications to the Chief Building Official for approval. Heating and air conditioning equipment, as well as plumbing, will be reviewed and inspected by the Chief Building Official. Conditions: **MECH-1** through **MECH-4**. *Reference: FSA Fac. Design, pp. 5.1-19.*

Electrical Engineering	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
	Major electrical features of the project, other than transmission, include generators, power control wiring, protective relays, grounding systems, and site lighting. The AFC lists and describes the electrical codes and design criteria applicable to these systems. **CONDITION:** ☑ For electric systems or components of 480 volts or higher, ESPR shall submit plans to the Chief Building Official for approval. Condition: **ELEC-1.** *Reference: FSA Fac. Design, pp. 5.1-2-6.*

FACILITY DESIGN – GENERAL

The Warren-Alquist Act requires the commission to "prepare a written decision.…which includes:

(a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]

(d)(1) Findings regarding the conformity of the proposed site and related facilities…with public safety standards…and with other relevant local, regional, state and federal standards, ordinances, or laws…" (Pub. Resources Code, § 25523).

Facility Design encompasses the civil, structural, mechanical and electrical engineering aspects of the project. The Facility Design analysis verifies that the project has been described in sufficient detail to provide reasonable assurance that it can be designed and constructed in accordance with all applicable laws and regulations, and in a manner that protects environmental quality and assures public health and safety.

This analysis also examines whether special design features should be considered during final design to deal with conditions unique to the site which could influence public health and safety, environmental protection or the operational reliability of the project. This analysis further identifies the design review and construction inspection process and establishes conditions of certification that will be used to ensure compliance with applicable laws and regulations and any special design requirements.

Engineering - General

Under Section 104.2 of the California Building Code (CBC), the building official is authorized and directed to enforce all the provisions of the CBC. For all energy facilities certified by the Energy Commission, the Energy Commission is the building official and has the responsibility

to enforce the code. In addition, the Energy Commission has the power to render interpretations of the CBC and to adopt and enforce rules and supplemental regulations to clarify the application of the CBC's provisions.

The Energy Commission's design review and construction inspection process is developed to conform to CBC requirements and ensure that all facility design conditions of certification are met. As provided by Section 104.2.2 of the CBC, the Energy Commission appoints experts to carry out the design review and construction inspections and act as a delegated Chief Building Officer (CBO) on behalf of the Energy Commission. These delegate agents typically include the local building official and independent consultants hired to cover technical expertise not provided by the local official. The project owner, through permit fees as provided by CBC Sections 107.2 and 107.3, pays the costs of the reviews and inspections. While building permits in addition to the Energy Commission certification are not required for this project, the project owner pays in-lieu permit fees, consistent with CBC Section 107, to cover the costs of reviews and inspections.

The Energy Commission has developed Conditions of Certification to ensure compliance with applicable laws and regulations and protection of the environment and public health and safety. Some of these conditions address the roles, responsibilities and qualifications of ESPR's engineers responsible for the design and construction of the project. Engineers responsible for the design of the civil, structural, mechanical, and electrical portions of the project are required to be registered in California, and to sign and stamp each submittal of design plans, calculations, and specifications submitted to the CBO. These conditions require that no element of construction proceed without prior approval from the CBO. They also require that qualified special inspectors be assigned to perform or oversee special inspections required by the applicable LORS.

While the Energy Commission and the delegated CBO have the authority to allow some flexibility with construction activities, these conditions are written to require that no element of construction of permanent facilities, which is difficult to reverse, may proceed without prior approval of plans from the CBO. For those elements of construction that are not difficult to reverse and are allowed to proceed without approval of the plans, the Applicant shall have the responsibility to fully modify those elements of construction to comply with all design changes that result from the CBO's plan review and approval process.

CONDITIONS:

- ☑ ESPR shall construct the project using the most recent California Building ~~Standards~~ Code with the oversight and approval of the ~~local~~ Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8.**

Engineering Geology

As described in **GEOLOGY**, seismic zone 4 conditions at the project site require the preparation of an Engineering Geology Report to characterize the geologic conditions.

Additionally, there is a potential for slope stability issues at the site, requiring special design considerations.

CONDITIONS:

- ☑ ESPR shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Conditions: **GEO-1** & **GEO-2**.
- ☑ The project owner shall conduct a detailed slope stability analysis of the project site prior to the completion of the final design for the project. Condition: **GEO-3.**

Civil Engineering

The existing foundations underlying Units 1 and 2 shall be removed and replaced with foundations adequate for the new units 5, 6, and 7. The power plant and related facilities shall be designed to meet the seismic requirements of the latest edition of the California Building Code.

CONDITIONS:

- ☑ The project owner shall submit grading plans and erosion/sedimentation control plans, perform inspections and submit as-built plans for approval. Conditions: **CIVIL-1, CIVIL-3** & **CIVIL-4**.
- ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2.**

Structural Engineering

Major structures, systems and equipment are defined as those necessary for power production and are costly to repair or replace, or that require a long lead time to repair or replace, or those used for the storage, containment, ~~or~~ handling of hazardous or toxic materials, or those that may become potential health and safety hazards if not constructed according to the applicable engineering LORS. The AFC lists the civil, structural, mechanical and electrical design criteria and demonstrates the likelihood of compliance with applicable LORS, all of which is essential to ensuring that the project is designed in a manner that protects the environment and public health and safety.

The project will be designed and constructed consistent with the ~~1998~~ 2001 edition of the CBC, and other applicable codes and standards in effect at the time design and construction of the project actually commence. In the event the design of project is submitted to the Chief Building Official (CBO) for review and approval when the successor to the ~~1998~~ 2001 CBC is in effect, the ~~1998~~ 2001 CBC provisions, identified herein, shall be replaced with the applicable successor provisions.

The procedures and limitations for the seismic design of structures by the ~~1998~~ 2001 CBC are determined considering seismic zoning, site characteristics, occupancy, structural configuration, structural system and height. Different design and analysis procedures are recognized in the ~~1998~~ 2001 CBC for determining seismic effects on structures. The

dynamic lateral force procedure of Section 1631 is acceptable for design. The static lateral force procedure of Section 1630 is allowed under certain conditions of regularity, occupancy and height as determined under Section 1629.

CONDITIONS:

- ☑ For earthquake safety of major structures, foundations, supports, anchorages, and tanks, the Project Owner will submit appropriate lateral force calculations, designs and plans to the Chief Building Official for approval. In addition, to ensure the safety of storage tanks, some of which contain hazardous materials, the Project Owner will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC-1** through **STRUC-4**.

Mechanical Engineering

The AFC lists and describes the mechanical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts. Design work will be performed in accordance with the appropriate LORS. This approach will assure the project's mechanical systems are designed to the appropriate codes and standards. Condition: **MECH-1** through **MECH-3.**

CONDITIONS:

- ☑ To ensure the safety of piping and pressure vessels, some of which transport or store hazardous materials, ESPR will submit plans and specifications to the Chief Building Official for approval. Heating and air conditioning equipment, as well as plumbing, will be reviewed and inspected by the Chief Building Official. Conditions: **MECH-1** through **MECH-3**.

Electrical Engineering

Major electrical features of the project, other than transmission, include generators, power control wiring, protective relaying, grounding system, cathodic protection system and site lighting. The AFC lists and describes the electrical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts (AFC)

CONDITIONS:

- ☑ For electric systems or components of 480 volts or higher, ESPR shall submit plans to the Chief Building Official for approval. Conditions: **ELEC-1**.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to facility design and related engineering fields.

CONDITIONS OF CERTIFICATION

GEN-1: The project owner shall design, construct and inspect the project in accordance with the ~~1998~~ 2001 edition of the California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The ~~CBC~~ CBSC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

In the event that the initial engineering designs are submitted to the CBO when a successor to the ~~1998 CBC~~ 2001 CBSC is in effect, the ~~1998 CBC~~ 2001 CBSC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [~~1998~~ 2001 CBC, Section 109 – Certificate of Occupancy].

GEN-2: Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine (CT) Foundation and Connections	2
HP/IP Steam Turbine (ST) Foundation and Connections	1
LP Steam Turbine (ST) Foundation and Connections	1
Combustion Turbine Generator Foundation and Connections	2
Steam Turbine Generator Foundation and Connections	1
Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections	2
Auxiliary Transformer Foundation and Connections	2
CT Inlet Air Plenum Structure, Foundation and Connections	2
Inlet Air Evaporative Cooler Structure, Foundation and Connections	2
HRSG Exhaust Stack, Foundation and Connections	2
Isolated Phase Bus Duct	2
HRSG Transition Duct from CTG — Structure	2
Secondary Unit Substation/Transformer	2
Electrical/Control Center	2
Condenser Structure, Foundation and Connections	1
Feed Water Pump Foundation and Connections	4
Condensate Pump Foundation and Connections	2
Feed Water Heater Foundation and Connections	2
Air Compressor Foundation and Connections	2
CT Water Injection Skid Foundation and Connections	2
CT Static Starter Skid Foundation and Connections	2
CT Mechanical Accessory Compartment Foundation and Connections	2
Switchgear Equipment Building Structure, Foundation and Connections	2
CT Generator Step-up Transformer Foundation and Connections	2
ST Generator Step-up Transformer Foundation and Connections	1
HRSG Blowdown Tank Foundation and Connections	2
Boiler Circulating Pump Connections	8
Condensate Circulating Pump Foundation and Connections	4
Fuel Gas Heater Foundation and Connections	2
ST Lube Oil Package Foundation and Connections	1
Drain Cooler Foundation and Connections	1

Equipment/System	Quantity (Plant)
Air Receiver Foundation and Connections	1
Air Dryer Foundation and Connections	1
Closed Cycle Cooling Water Heat Exchanger Foundation and Connections	2
Closed Cycle Cooling Water Pump Foundation and Connections	2
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
Building Energy Conservation Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
High Pressure Piping	1 Lot
HVAC and Refrigeration Systems	1 Lot

GEN-3: The project owner shall make payments to the CBO for design review, plan check and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the ~~1998~~ 2001 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

Verification: The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-4: Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities).] All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

The RE shall:

1. Monitor construction progress of work requiring CBO design review and inspection to ensure compliance with LORS;

2. Ensure that construction of all the facilities subject to CBO design review and inspection conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;

3. Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;

4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications and any other required documents;

5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and

6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work, if the work does not conform to applicable requirements.

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-5: Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures

and equipment supports; D) a mechanical engineer; and E) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all responsible engineers assigned to the project [1998 CBC, Section 104.2, Powers and Duties of Building Official].

If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

A: The civil engineer shall:

1. Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and
2. Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports, and prepare final soils grading report;
2. Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 – Soils Engineering Report, and Section 3309.6 – Engineering Geology Report;
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 1998 CBC, Appendix Chapter 33, section 3317, Grading Inspections;

4. Recommend field changes to the civil engineer and RE;
5. Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and
6. Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18 section 1804, Foundation Investigations.

This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations [1998 CBC, section 104.2.4, Stop orders].

C: The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;
2. Provide consultation to the RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications and calculations.

D: The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

E: The electrical engineer shall:

1. Be responsible for the electrical design of the project; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-6: Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section, 1701.5 Type of Work (requiring special

inspection), and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;

2. Observe the work assigned for conformance with the approved design drawings and specifications;

3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and

4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.

A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

Verification: At least 15 days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7: The project owner shall keep the CBO informed regarding the status of engineering and construction. If any discrepancy in design and/or construction is discovered in any work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this Condition of Certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

Verification: The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next Monthly Compliance Report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval, and the revised corrective action to obtain CBO's approval.

GEN-8: The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [1998 CBC, Section 108, Inspections]. The project owner shall retain one set of approved engineering plans, specifications and calculations at the project site or at another accessible location during the operating life of the project [1998 CBC, Section 106.4.2, Retention of plans].

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM in the next Monthly Compliance Report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing final approved engineering plans, specifications and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.

GEN-9: Deleted. See General Conditions of Compliance.

CIVIL-1: Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils report as required by the 1998 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report].

Verification: At least 15 days prior to the start of site grading (or a lesser number of days mutually agreed to by the project owner and the CBO), the project owner shall submit the documents described above to the CBO for design review and approval. In the next Monthly Compliance Report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2: The resident engineer shall, if appropriate, stop all earthworks and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new

conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [1998 CBC, Section 104.2.4, Stop orders].

Verification: The project owner shall notify the CPM, within five days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

CIVIL-3: The project owner shall perform inspections in accordance with the 1998 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations for which a grading permit is required shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4: After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy].

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

STRUC-1: Prior to the start of any increment of construction of any major structure or component listed in **Table 1** of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 1**, above):

1. Major project structures;
2. Major foundations, equipment supports and anchorage;
3. Large field fabricated tanks;
4. Turbine/generator pedestal; and

5. Switchyard structures.

Construction of any structure or component shall not commence until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents]; and
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record].

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction of any structure or component listed in Table 1 of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall correct and resubmit the plans to the CBO within 20 days of receipt of the nonconforming submittal with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable LORS.

STRUC-2: The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structural activities requiring special inspections shall be in accordance with the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the Condition(s) of Certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain the CBO's approval.

STRUC-3: The project owner shall submit to the CBO design changes to the final plans required by the 1998 CBC, Chapter 1, Section 106.3.2, Submittal documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4: Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-1: Prior to the start of any increment of major piping or plumbing construction, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in Table 1, Condition of Certification GEN 2, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal Documents, Section 108.3, Inspection Requests, Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request, Section 301.1.1, Approval].

The responsible mechanical engineer shall stamp and sign all plans, drawings and calculations for the major piping and plumbing systems subject to the CBO design review and approval, and submit a signed statement to the CBO when the said proposed piping and plumbing systems have been designed, fabricated and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards [Section 106.3.4, Architect or Engineer of Record], which may include, but not be limited to:

American National Standards Institute (ANSI) B31.1 (Power Piping Code);
ANSI B31.2 (Fuel Gas Piping Code);
ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
ANSI B31.8 (Gas Transmission and Distribution Piping Code);
Title 24, California Code of Regulations, Part 5 (California Plumbing Code);
Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
Title 24, California Code of Regulations, Part 2 (California Building Code); and
Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [1998 CBC, Section 104.2.2, Deputies].

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of major piping or plumbing construction listed in Table 1, Condition of Certification GEN-2 above, the project owner shall submit to the CBO for design review and approval the final plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.

MECH-2: For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998 CBC, Section 108.3 – Inspection Requests].

The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

MECH-3: Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.

ELEC-1: Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations [CBC 1998, Section 106.3.2, Submittal documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

A. Final plant design plans to include:

1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and
2. system grounding drawings.

B. Final plant calculations to establish:

1. short-circuit ratings of plant equipment;
2. ampacity of feeder cables;
3. voltage drop in feeder cables;
4. system grounding requirements;
5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
6. system grounding requirements; and
7. lighting energy calculations.

C. The following activities shall be reported to the CPM in the Monthly Compliance Report:

1. receipt or delay of major electrical equipment;
2. testing or energizing of major electrical equipment; and
3. a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

FACILITY DESIGN

APPLICABLE LAW	DESCRIPTION
Title 24, California Code of Regulations, which adopts the current edition of the California Building Standards Code (CBSC); the ~~1998~~ 2001 CBSC for design of structures; American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; and National Electrical Manufacturers Association (NEMA) standards.	The applicable LORS for each engineering discipline, civil, structural, mechanical and electrical, are included in the application as part of the engineering appendix, Appendix N.

RELIABILITY – Summary of Findings

Plant Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	ESPR expects to operate at an overall availability in the mid-90 percent range. *Reference: AFC 5.19-1; FSA Reliability, p. 5.4-2*
Maintainability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	ESPR will establish a plant maintenance program typical of the industry. Equipment manufacturers will provide maintenance recommendations with their products and ESPR will base its maintenance program on these recommendations. *Reference: AFC p. 5.19-2; FSA Reliability, pp. 5.4-4.*
Fuel Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The project will burn natural gas supplied from the Southern California Gas Company system. There is an adequate supply of natural gas to meet the project's needs. There is no back-up fuel supply. *Reference: AFC p. 5.19-6-7; FSA Reliability, p. 5.4-4.*
Water Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	Water for cooling will be drawn from the Santa Monica Bay through the existing ESGS Unit 1 once-through cooling system. Potable water will be supplied by the City of El Segundo. *Reference: AFC p. 5.19-8; FSA Reliability, p. 5.4-4.*
Natural Disasters	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	There is no credible threat of flooding. Although located within seismic zone 4, the plant will perform as well or better than others in the electric power system by complying with the latest seismic design criteria of the California Building Code. See **FACILITY DESIGN.** *Reference: AFC p.3.2; FSA Reliability, p. 5.4-5.*

RELIABILITY - GENERAL

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Energy Commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation (Cal. Code Regs., tit. 20, § 1752(c)). In past proceedings, the Commission has taken the approach that a project is acceptable if it does not degrade the reliability of the utility system to which it is to be connected. Thus, a project should exhibit reliability at least equal to that of other power plants on that system.

Plant Availability

The North American Electric Reliability Council (NERC) keeps industry statistics for availability factors. NERC continually polls utility companies throughout the North American continent on project reliability. In 1999, NERC reported an availability factor of 91.49 percent for combined cycle units of all sizes. The gas turbines that will be employed in the project have been on the market for several years, and can be expected to exhibit typically high availability. In fact, these new, large machines can be expected to outperform the fleet of various, mostly older and smaller, gas turbines that make up the NERC statistics. ESPR is intended to operate as a baseload facility with a capacity factor of at least 90%. As a major, new, efficient generating facility located in Southern California Edison's Los Angeles load center, the facility should be in high demand.

Acceptable reliability can be accomplished by providing adequate redundancy of critical components. Equipment availability will be ensured by use of ESPR's quality assurance/ quality control (QA/QC) programs during design, procurement, construction and operation of the plant, and by providing for adequate maintenance and repair of the equipment and systems.

ESPR has provided an outline of the expectations for quality control from the design concept phase through project commissioning. Equipment will be purchased from qualified suppliers that employ an approved QC program. Designs will be checked and equipment inspected upon receipt; installation will be inspected and systems tested. To ensure such implementation, appropriate Conditions of Certification are included in **FACILITY DESIGN**.

Maintainability

A generating facility called on to operate in baseload service for long periods of time must be capable of being maintained while operating. A typical approach for achieving this is to provide redundancy of those pieces of equipment most likely to require service or repair. ESPR plans to provide appropriate redundancy of function for the combined cycle portion of the project. The fact that the project consists of two trains of gas turbine generators/HRSGs provides inherent reliability. Failure of a non-redundant component of one train should not cause the other train to fail, thus allowing the plant to continue to generate, though at reduced output. Further, the plant's distributed control system (DCS) will be built with typical redundancy. Emergency DC and AC power systems will be supplied by redundant batteries, chargers, and inverters. (AFC 1.2, 3.10, 5.19-4; Appendix F; FSA Reliability, pp. 5.4-3, 4.)

ESPR proposes to establish a plant maintenance program based on good utility practices typical of the industry. Equipment manufacturers provide maintenance recommendations with their products; ESPR will base its maintenance program on these recommendations. In light of these plans, the project will be adequately maintained to ensure acceptable reliability. (AFC p. 5.19-2; FSA Reliability, p. 5.4-4.)

Fuel Availability

ESPR will burn natural gas from the Southern California Gas Company (SoCalGas) system. Gas will be received at the plant via a new connection to the existing on-site metering station, interconnected to SoCalGas' existing 20-inch diameter pipeline. This natural gas system, which provides access to gas from the Rocky Mountains, Canada and the Southwest, represents a resource of considerable capacity. This system offers access to adequate supply of gas. (AFC p. 5-19.6; FSA Reliability, p. 5.4-4.)

Water Availability

ESPR is utilizing reclaimed water in the project wherever feasible on landscaping and "seal water" for cooling equipment seals. Project cooling relies only on sea water from the Santa Monica Bay. Adequate supplies are available. (AFC 5.5-2-4; FSA 4.13-10-11.)

Natural Disasters

Natural forces can threaten the reliable operation of a power plant. High winds, tsunamis (tidal waves) will not likely represent a hazard for this project, but flooding and seismic shaking (earthquake) present credible threats to reliable operation. Although the site elevation is 20 feet above mean sea level, with proper grading and drainage, as well as the new sea wall ESPR has incorporated into its design, there should be no threat of flooding. (FSA p. 5.4-5.)

The site lies within Seismic Zone 4. The project will be designed and constructed to the latest appropriate seismic design criteria of the California version of the Uniform Building Code. By being constructed and built to the latest, upgraded seismic design criteria, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. This Decision contains Conditions of Certification to ensure the project is constructed in conformity with the latest California Building Code. See **FACILITY DESIGN**.

Finding

Without Conditions of Certification, the project conforms to applicable laws related to reliability.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

RELIABILITY

APPLICABLE LAW	DESCRIPTION
None	

TRANSMISSION LINE SAFETY & NUISANCE – Summary of Findings and Conditions

Electric & Magnetic Fields	**COMPLIES WITH APPLICABLE LAW & REGULATIONS**
	ESGS will not add any new offsite transmission lines or increase the carrying capacity of a specific line. Onsite replacement lines must comply in CPUC requirements. **CONDITION:** ☑ Project owner shall construct on-site transmission lines in accordance with applicable regulations. Condition: **TSLN-1.** *Reference: AFC p. 5.18-27; FSA Pub. Health, pp. 4.10-10.*
Aviation Safety	**COMPLIES WITH APPLICABLE LAW & REGULATIONS**
	The project will not adversely impact aviation safety. *Reference: AFC 5.18-51; FSA 4.10-2*
Radio & TV Interference	**COMPLIES WITH APPLICABLE LAW & REGULATIONS**
	Transmission line related radio and TV-frequency interference are regulated by both Federal and State regulations. Conditions are set forth herein to ensure that any interference is mitigated whenever interference occurs. **CONDITION:** ☑ ESPR shall measure project-related electric and magnetic fields Condition: **TSLN-1.** *Reference: AFC 5.18-2-11; FSA 4.10-2,3*
Audible Noise	**COMPLIES WITH APPLICABLE LAW & REGULATIONS**
	There are no design specific federal regulations to limit audible noise from transmission lines. As with radio noise, such noise is limited instead through design and maintenance standards established from industry research and experience. *Reference: AFC 5.18-42-44; FSA 4.10-3,4*
Fire Hazard	**COMPLIES WITH APPLICABLE LAW & REGULATIONS**
	State regulations set forth guidelines to minimize potential fire hazards as a result of overhead lines. *Reference: FSA 4-10-4*
Shocks	**COMPLIES WITH APPLICABLE LAW & REGULATIONS**
	State regulations and industrial standards set forth guidelines to prevent hazardous shocks from power lines. *Reference: FSA 4.10-4,5*

TRANSMISSION LINE SAFETY & NUISANCE – GENERAL

The Warren-Alquist Act requires the Commission to "prepare a written decision … which includes:

> (a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]
>
> (d)(1) Findings regarding the conformity of the proposed site and related facilities…with public safety standards…and with other relevant local, regional, state and federal standards, ordinances, or laws…" (Pub. Resources Code, § 25523).

The power generated from ESPR will be transmitted off-site to the Southern California Edison (SCE) 230 kV El Segundo Switchyard located adjacent to ESGS. This transmission will be made using existing SCE transmission line, meaning that no new off-site transmission lines will be built in connection with the proposed project modification. The only new lines would be the two on-site 230 kV overhead connections between the new replacement generating units 5, 6, and 7 and the SCE Switchyard. As replacement lines, these new lines will be located within the same route as the connecting lines for the existing 1950s-vintage units 1 and 2, which are the units to be replaced.

Electric & Magnetic Fields

The possibility of health effects from exposure to electric and magnetic fields has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of considering exposure to both as EMF exposure. The available evidence, as evaluated by California Public Utilities Commission (CPUC) and other regulatory agencies, has not established that such fields pose a significant health hazard to exposed humans.

However, the Energy Commission considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Therefore, in light of present uncertainty, it is appropriate to reduce such fields where feasible, until the issue is better understood.

Since each new or modified line in California is currently required to be designed according to the safety and EMF-reducing guidelines of the utility in the service area involved, their fields are required under existing CPUC policies to be similar to fields from similar lines in that service area. A Condition of Certification has been set forth to verify implementation of the reduction measures necessary.

CONDITION:

- ☑ ESPR shall design and construct on-site replacement lines in compliance with CPUC's GO-95, GO-52, Title 8, Sections 2700 through 2974 of the California Code of Regulations and SCE's EMF-reduction guidelines arising from CPUC 93-11-013. **TSLN-1.**

Aviation Safety

The project will not adversely impact aviation safety and all applicable LORS are in compliance.

Radio & TV Interference

Transmission line-related radio-frequency interference is one of the indirect effects of line operation produced by the physical interactions of line electric fields. The level of such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for such impacts can be assessed from field strength estimates obtained for the line. Applicable regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

CONDITION:

- ☑ ESPR shall measure project-related electric and magnetic fields. Condition: **TSLN-2.**

Audible Noise

There are no design-specific federal regulations to limit the audible noise from transmission lines. As with radio noise, such noise is limited instead through design and maintenance standards established from industry research and experience. These standards have proven effective without significant impacts on line safety, efficiency, maintainability, and reliability. Any noise will usually result from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying, hissing sound, or hum. Since (as with communications interference), the noise level depends on the strength of the line electric field, the potential for occurrence can be assessed from estimates of the field strengths expected during operation. Such noise is generated during wet weather and from lines of 345 kV or higher. It is, therefore, not generally expected at significant levels from lines of less than 345 kV such as the on-site or off-site lines associated with the proposed project.

Fire Hazard

State regulations address fire hazards that could be caused by sparks from conductors of overhead lines or that could result from direct contact between the line and nearby trees and other combustible objects. The project is in compliance with such state regulations, therefore, risk of such fire hazards are minimal. (FSA 4.10-4; General Order 95, CPUC; Title 14, California Code of Regulations, Section 1250, "Fire Prevention Standards for Electric Utilities").

Shocks

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specific in the National Electrical Safety Code and the joint guidelines of the American National Standards Institute and the joint guidelines of the Institute of Electrical and Electronics Engineers. Nuisance shocks are caused by current flow at levels generally incapable of significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from the energized line. Such electric charges are induced in different ways by the line electric and magnetic fields.

Cumulative Impacts

There are no significant cumulative impacts.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission line safety.

CONDITIONS OF CERTIFICATION

TLSN-1: The project owner shall ensure that the proposed on-site replacement lines (associated with Units, 5, 6, and 7) are designed and constructed in compliance with CPUC's GO-95, GO-52, Title 8, Section 2700 Sections 2700 through 2974 of the California Code of Regulations and SCE's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

Verification: Thirty days before the start of line construction, the project owner shall submit to the Commission's Compliance Project Manager (CPM) evidence of their intention to comply with the above requirements.

TLSN-2: The project owner shall ensure that a qualified individual is engaged to measure the strengths of the project-related electric and magnetic in the post-modification period. Measurements should be made at the same points along the perimeter of the SCE Switchyard, within the route of the on-site replacement lines, and the route of the existing off-site SCE lines, for which field strength values were presented by the Applicant.

Verification: The project owner shall ensure that the post-modification measurements are tabulated together with the pre-modification measurements presented by the Applicant. A copy of these measurement results shall be filed with the CPM within 60 days after completion of the measurements.

TLSN-3: Thirty days prior to the start of commercial operations**,** the project owner shall send written notice to all property owners and residents in the City of Manhattan Beach within 1,000 feet of transmission lines between the El Segundo Generating Station and the El Nido Substation of the possible interference impacts associated with the project and procedures for reporting complaints. The project owner shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of transmission lines and related facilities. In addition to any transmission repairs, the relevant corrective actions should include, but shall not be limited to, adjusting or modifying receivers, adjusting or repairing, replacing or adding antennas, antenna signal amplifiers, filters, or lead-in cable.

The project owner shall maintain written records for a period of five years, of all complaints of radio or television interference attributable to operation together with the corrective action taken in response to each compliant. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complaint, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

Verification: All reports of line-related complaints shall be summarized and included in the Annual Compliance Report to the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION LINE SAFETY AND NUISANCE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
14 CFR Part 77 – Objects Affecting the Navigation Space	Provides regulates that specify the criteria used by the FAA for determining whether a Notice of Proposed Construction or Alteration is required for potential obstruction hazards.
Title 47 CFR §15.25	Prohibits operation of any devices producing force fields that interfere with radio communications, even if such devices are not intentionally designed to produce radio-frequency energy.
STATE	
CPUC General Order 52	Governs the construction and operation of power and communications lines
CPUC General Order 128	Specifies criteria for underground transmission lines.
Title 14 CCR §1250	Specifies utility-related measures for fire protection.
Title 8 CCR, §2700 et seq.	Establishes requirements and standards for safely installing, operating and maintaining electrical installations and equipment.
LOCAL	
There are no applicable Local LORS for this area.	

TRANSMISSION SYSTEM ENGINEERING – Summary of Findings and Conditions

Grid Planning	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The proposed project's 350 MWs, combined with the existing 280 MWs generated by Units 3 and 4, can be accommodated by SCE's electric transmission grid without creating congestion or requiring additional new facilities under normal and emergency operating conditions. *References: AFC 3.6-1; FSA TSE., 5.5-1-13.*
System Reliability:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	ESPR's net addition of 280 MW does not require new or modified transmission facilities, beyond the projects interconnection with the existing transmission system. *Reference: AFC 3.6-6; FSA TSE., 5.5-1-13.*

TRANSMISSION SYSTEM ENGINEERING – GENERAL

The Warren-Alquist Act requires the Commission to "prepare a written decision ….which includes:

> (a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]
>
> (d)(1) Findings regarding the conformity of the proposed site and related facilities…with public safety standards…and with other relevant local, regional, state and federal standards, ordinances, or laws…" (Pub. Resources Code § 25523).

Under California's 1996 Electricity Industry Deregulation legislation, Southern California Edison (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas and Electric Company (SDG&E) divested most of their power plants but retained ownership of their electric transmission and distribution systems, under the operating control of the California Independent System Operator (Cal-ISO). Cal-ISO is responsible for ensuring electric system reliability for all participating transmission owning utilities and determines both the standards necessary to achieve reliability and whether a proposed project conforms to those standards. The Energy Commission relies on the Cal-ISO's determinations to make its finding related to applicable reliability standards and the need for additional transmission facilities. The Energy Commission conducts an environmental review of the proposed project. The Energy Commission must also consider any additional transmission facilities recommended by Cal-ISO as part of the "whole of the action" even though the additional facilities are not licensed by the Energy Commission (CCR, tit. 14, §15378).

The El Segundo project is presently within Southern California Edison's (SCE) distribution and transmission service territory. The El Segundo project will result in a net increase in the output of the existing El Segundo Generating Station by 280 MW, with the 350 MW existing Units 1 and 2 replaced by the new Units 5, 6, and 7 with a nominal net output of 630 MW. Units 3 and 4 will be re-rated from 604 MW to 670 MW as a result of the project. New transmission facilities are limited to those on-site that would connect the new generating facilities with the existing on-site El Segundo substation. No new transmission lines will be required for the project. Two new generator lead lines will connect the switchyard to the existing El Segundo substation, located on-site. The 230 kV lead lines will connect the 230 kV transformers in the switchyard with existing 230 kV equipment in the El Segundo substation. While the interconnection and operation of the project will require the replacement of circuit breakers and wave traps in the Southern California Edison transmission network, no significant downstream facilities have been identified as a reasonably foreseeable consequence of the El Segundo project.

Grid Planning

A Facility Study was conducted for the El Segundo project by SCE. The power flow study results indicate that, under stressed conditions, an extensive list of existing line overloads would be slightly increased due to the project. In addition, a limited number of heavily loaded facilities would reach overload conditions with the addition of the project. The study describes four mitigation alternatives for the identified overloads. ESPR has committed to alternative 3. Alternative 3 uses Special Protection Systems and replaces equipment such as wave traps and circuit breakers that are within the fence line of the existing facilities (ESPR 2002, pp. 5 and 6; FSA p. 5.5-5). Thus no new or modified transmission facilities beyond the project's interconnection with the existing transmission system would be required as a result of the power plant addition. The entire project meets NERC, WECC, and Cal-ISO reliability criteria. (FSA p. 5.5-6.)

Operating Reliability & Safety

A system reliability study was performed to determine the effects of connecting a new power plant to the existing electric grid. Based on results of the Facilities Study and a subsequent letter from ESPR, it was determined that the project will not cause significant line overloads under normal conditions. Transmission lines do overload under normal and emergency or outage conditions, which will require mitigation, but significant downstream facilities will not be required.

Cumulative Impacts

While cumulative transmission impacts caused by the combined operation of the project and other proposed projects are possible, these potential impacts are highly speculative because of the uncertainty surrounding project proposed by other generators. Mitigation of such impacts will be the responsibility of other project developers, and any impacts caused by the El Segundo project will be mitigated as previously identified.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission system engineering.

Transmission Systems Engineering

TSE-1: The project owner shall furnish to the CPM, and to the CBO, a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Equipment List
Breakers
Step-up Transformer
Switchyard
Busses
Surge Arrestors
Disconnects
Take off facilities
Electrical Control Building
Switchyard Control Building
Transmission Pole/Tower
Grounding System

TSE-2: Prior to the start of construction, the project owner shall assign an electrical engineer and at least one of each of the following to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures

and equipment supports; or D) a mechanical engineer. (Business and Professions Code Sections 6704 et seq., require state registration to practice as a civil engineer or structural engineer in California.)

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical or civil and design engineer assigned in conformance with Facility Design condition **GEN-5**, may be responsible for design and review of the TSE facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

1. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

TSE-3: If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action. (1998 CBC, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The discrepancy documentation shall become a

controlled document and shall be submitted to the CBO for review and approval and shall reference this condition of certification.

Verification: The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action required to obtain the CBO's approval.

TSE-4: For the power plant switchyard, outlet line and termination, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

a) receipt or delay of major electrical equipment;
b) testing or energizing of major electrical equipment; and
c) the number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5: The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The substitution of CPM and CBO approved "equivalent" equipment and equivalent substation configurations is acceptable. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

a) The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", National Electric Code (NEC) and related industry standards.

b) Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.

c) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.

d) The project conductors shall be sized to accommodate the full output from the project.

e) Termination facilities shall comply with applicable SCE interconnection standards.

f) The project owner shall provide:

i) The final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS) sequencing and timing if applicable,
ii) Executed Facility Interconnection Agreement
iii) Verification of Cal-ISO Notice of Synchronization.

Verification: At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agree to by the project owner and CBO), the project owner shall submit to the CBO for approval:

a) Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.

b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[4] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, applicable interconnection standards, and related industry standards.

c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements **TSE-5** a) through f) above.

d) The DFS operational mitigation measures, SPS, and executed Facility Interconnection Agreement shall be provided concurrently to the CPM and CBO. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CBO approval.

TSE-6: The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-5** a) through f), and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

[4] Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

Verification: At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-5** and request approval to implement such changes.

TSE-7: The project owner shall provide the following Notice to the California Independent System Operator (Cal-ISO) prior to synchronizing the facility with the California Transmission system:

1. At least one week prior to synchronizing the facility with the grid for testing, provide the Cal-ISO a letter stating the proposed date of synchronization; and
2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department.

Verification: The project owner shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one week prior to initial synchronization with the grid. The project owner shall contact the Cal-ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

TSE-8: The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM and CBO:

a) "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", and applicable interconnection standards, NEC, related industry standards, and these conditions shall be provided concurrently.

b) An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan".

c) A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION SYSTEM ENGINEERING

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no applicable Federal LORS	
STATE	
CPUC General Order 95, Rules for Overhead Electric Line Construction.	Formulates uniform requirements for construction of overhead lines
CPUC Rule 21	Provides standards for the reliable connection of parallel generating stations connected to participating transmission owners.
Western Systems Coordinating Council (WSCC)	Provides the performance standards used in assessing reliability of the interconnected system.
North American Electric Reliability Council (NERC)	Provides policies, standards, principles and guides to assure the adequacy and security of the electric transmission system.
LOCAL	
There are no applicable Local LORS for this area.	

WORKER SAFETY – Summary of Findings and Conditions

Fire Protection	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Prior to construction and operation of the project, the city of El Segundo Fire Department shall confirm the adequacy of the proposed fire protection systems and plans. **CONDITION:** ☑ ESPR shall submit fire protection plans for the construction and operation of the project. Conditions: **WORKER SAFETY-1**, **WORKER SAFETY-2.** *References: AFC p. 5.17-13 and §3.4.10; FSA pp. 4.14-8, 10.*
Safety & Injury Prevention	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Construction: During the construction phase of the project, workers will be exposed to hazards typical of construction of a cogeneration facility. Construction Safety Orders are promulgated by Cal/OSHA and are applicable to the construction phase of the project. **CONDITION:** ☑ ESPR shall prepare a Construction Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-1.** Operation: Prior to operation, ESPR shall prepare the Operations Safety and Health Program, which will include an Injury and Illness Prevention Program, an Emergency Action Program/Plan, a Fire Protection and Prevention Program; and a Personal Protective Equipment Program. **CONDITION:** ☑ ESPR shall prepare an Operations Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-1.** *References: AFC §5.17; FSA pp. 4.14-4, 5.*

Noise	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
	Cal-OSHA regulations provide the maximum noise level over an 8-hour work period is 90 dBA. Areas above 85 dBA need to be posted as high noise level areas and appropriate hearing protection will be provided. ESPR will also adopt a hearing conservation program in accordance with Cal-OSHA regulations. **CONDITION:** ☑ Project owner shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **WORKER SAFETY-1**. ☑ Project owner shall conduct an occupational noise survey to identify noise hazardous areas and, if necessary, prepare mitigation in consultation with Cal/OSHA to reduce noise to prescribed limits. Condition: **WORKER SAFETY-2.** *Reference: AFC 5-12-15-16; FSA 4.14-2-4*

WORKER SAFETY - GENERAL

The requirements for worker safety and fire protection are enforced through Federal, State, and local regulations. The State of California Department of Industrial Relations is charged with the responsibility for administering the Cal/OSHA plan. Effective implementation of worker safety programs at a facility is essential to the protection of workers from workplace hazards. These programs are documented through project-specific worker safety plans. Industrial workers at the proposed facility will operate equipment, handle hazardous materials, and face other workplace hazards that may result in accidents or serious injury. The worker safety and fire protection measures proposed for this project are designed to either eliminate or minimize such hazards through special training, use of protective equipment or implementation of procedural controls. (AFC §5.17; FSA 4.14-1,4.)

Fire Protection

The Energy Commission staff reviewed the information provided in the AFC regarding on-site fire protection, which will be adequate for fighting incipient fires. The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. Fixed fire suppression systems will be installed at pre-determined fire risk areas. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Sprinkler systems will be installed in the Control/Administration Building and Fire Pump Building, as required by NFPA requirements. Hand-held fire extinguishers will be located in accordance with NFPA 10 throughout the facility.

ESPR will also be required to provide final diagrams and plans of fire protection systems to the Energy Commission and to the City of El Segundo Fire Department, prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection systems and plans. All Fire Department access roads, water mains, and fire hydrants shall be installed and operational during construction in accordance with Article 87 of the Fire Code. A final inspection by the Fire Department will be required to confirm that the facility meets all the Fire and Building Code requirements. These measures are sufficient to ensure adequate protection of workers and the public from impacts associated with fire hazards posed by the proposed facility.

CONDITION:

- ☑ ESPR shall submit fire protection plans for the construction and operation of the project. Conditions**: WORKER SAFETY-1, WORKER SAFETY-2**.

Safety & Injury Prevention

Industrial environments are potentially dangerous. Workers could be exposed to chemical spills, hazardous waste, fires, moving equipment, and confined space entry and egress problems. It is important to have well-defined facility-specific policies and procedures, training, and hazard recognition and control to minimize work place hazards and to protect workers from unavoidable hazards. Energy Commission staff has reviewed ESPR's proposed measures for protection of workers during construction and operation of the proposed project. These measures are described below. These measures are adequate to protect workers from work place hazards associated with the proposed project and to comply with applicable laws.

Construction: During the construction phase of the project, workers will be exposed to hazards typical of construction of a gas-fired combined cycle facility. Construction Safety Orders are published at Title 8 of the California Code of Regulations beginning with section 1502 (8 CCR § 1502, et seq.). These requirements are promulgated by Cal/OSHA and are applicable to the construction phase of the project. The Construction Injury and Illness Prevention Program will include the following:

- A Construction Safety Program;
- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Emergency Action Plan; and
- A Construction Fire Protection and Prevention Plan.

Additional programs include General Industry Safety Orders (8 CCR § 3200-6184), Electrical Safety Orders (8 CCR §2299-2974) and Unfired Pressure Vessel Safety Orders (8 CCR § 450-544). The AFC includes adequate outlines of each of the above programs. Prior to

construction of the project, detailed programs and plans will be provided pursuant to the Condition of Certification **WORKER SAFETY-1**.

CONDITION:

- ☑ ESPR shall prepare a Construction Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-1.**

Operation: Upon completion of construction and prior to operation, ESPR shall prepare the Operations and Maintenance Safety and Health Program pursuant to regulatory requirements of Title 8 of the California Code of Regulations, which will include the following programs and plans:

- An Operation Injury and Illness Prevention Plan;
- An Emergency Action Plan;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program;
- Fire Protection and Prevention Program (8 CCR § 3221); and;
- Personal Protective Equipment Program (8 CCR §§ 3401-3411

Additional programs also include General Industry Safety Orders (8 CCR § 3200-6184), Electrical Safety Orders (8 CCR §2299-2974) and Unfired Pressure Vessel Safety Orders (8 CCR § 450-544). The AFC includes adequate outlines of each of the above programs. Cal/OSHA will review ESPR's program and provide comments as a result of a consultation request. A Cal/OSHA representative will complete a physical survey of the site, analyze work practices, and assess those practices that may likely result in illness or injury.

CONDITION:

- ☑ ESPR shall prepare an Operations Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-2.**

Noise

Construction: ESPR acknowledges the need to protect construction workers from noise hazards as well as the applicable laws and regulations relating to worker health and safety. The California Occupational Safety and Health Administration regulations provide the maximum noise level over an 8-hour work period is 90 dBA. Areas above 85 dBA need to be posted as high noise level areas and appropriate hearing protection will be provided. ESPR will also adopt a hearing conservation program in accordance with the Cal-OSHA § 5097 Hearing Conservation Program.

CONDITION:

☑ ESPR shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **NOISE-3.**

Operation: ESPR recognizes the need to protect plant operating and maintenance personnel from noise hazards, and to comply with applicable laws and regulations. A measure to be implemented for noise-related impacts includes the above-mentioned Hearing Conservation Program.

CONDITION:

☑ ESPR shall conduct an occupational noise survey to identify noise hazardous areas and, if necessary, prepare mitigation in consultation with Cal/OSHA to reduce noise to prescribed limits. Condition: **NOISE-7.**

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to worker safety.

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1: The project owner shall submit to the Compliance Project Manager (CPM) for approval, a copy of the Project Demolition and Construction Safety and Health Program containing the following:

- A Demolition and Construction Safety Program;
- A Demolition and Construction Personal Protective Equipment Program;
- A Demolition and Construction Exposure Monitoring Program;
- A Demolition and Construction Emergency Action Plan; and
- A Demolition and Construction Fire Protection and Prevention Plan.

The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Demolition and Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the City of El Segundo Fire Department for review and comment prior to submittal to the CPM.

The Demolition and Construction Fire Protection and Prevention Plan and Emergency Action Plan shall include the following:

1. Methods to maintain fire access roadways and submittal of a fire access layout plan for review by the El Segundo Fire Department and approval by the CPM.

2. Provision of a suitable replacement for the existing fire suppression water reservoir prior to demolishing the existing reservoir.
3. Provision of fire flow calculations to verify that the available water supply proposed will be adequate for emergency operations.
4. A requirement that all temporary fire mains and hydrants shall be adequately braced and tied-down to anticipate the effects of water hammer and that protection from vehicular impact is provided as necessary.

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM for review and approval a copy of the Project Demolition and Construction Safety and Health Program. The project owner shall provide a letter from the City of El Segundo Fire Department stating that they have reviewed and commented on the Demolition and Construction Fire Protection and Prevention Plan and Emergency Action Plan.

WORKER SAFETY-2: The project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- An Operation Injury and Illness Prevention Plan;
- An Emergency Action Plan;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program;
- Fire Protection and Prevention Program (8 CCR § 3221); and;
- Personal Protective Equipment Program (8 CCR §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the City of El Segundo Fire Department for review and comment.

The Project Operations Fire Protection and Prevention Plan and Emergency Action Plan shall address:

1. Provision of remote annunciation for all fire alarm and automatic suppression devices and the placement of remote annunciation at the security station on Vista Del Mar.
2. Provision of a complete fire alarm system and automatic fire sprinklers for the new administration building and any new control buildings.
3. A secondary entrance point for Fire Department operations along the northern boundary of the property.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM and the City of El Segundo Fire Department a copy of the Project Operations and Maintenance Safety & Health Program.

WORKER SAFETY-3: Before using one of the fuel oil storage tanks as a clean soils storage area, the project owner shall ensure that the integrity of the floor has not been

compromised by cracks or holes, the tanks have been thoroughly cleaned, no airborne hydrocarbons are present above the method detection level of a hand-held PID hydrocarbon vapor detector, and that the earth-moving vehicles used are equipped with environmental cabs.

Verification: At least 30 days prior to the start of using the tanks as a storage area, the project owner shall submit to the CPM a report verifying the integrity of the floor, describing the results of the PID monitoring, and a statement that all earth-moving vehicles used are equipped with properly functioning environmental cabs.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WORKER SAFETY AND FIRE PROTECTION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Title 29 CFR §651 et seq.	Established the Occupational Safety and Health Act of 1970 to protect the health and safety of workers
Title 29 CFR §1910 et seq.	Contains the minimum occupational health and safety standards for general industry in the U.S.
Title 29 CFR §1926 et seq.	Contains the minimum occupational health and safety standards for construction industry in the U.S.
Title 29 CFR §1952.170-1952-175 et seq.	Gives California full enforcement responsibility for relevant federal occupational health and safety standards.
Title 49 CFR §192	U.S. Department of Transportation Pipeline Safety Regulations. Adopted by the California Public Utility Commission. Governs the California utilities on design, construction, testing, maintenance, and operation of piping systems.

STATE	
Title 8 CCR §5144	Requirements for respiratory protection programs for construction workers.
Title 8 CCR §1920 et seq.	Regulations for fire prevention during construction.
Title 8 CCR §450-560 et seq.	Applicable requirements of the Division of Industrial Safety, including Unfired Pressure Vessel Safety Orders, Construction Safety Orders, Electrical Safety Orders, and General Industry Safety Orders.
Title 8 CCR §1509, 1514-1522, 3203, 3220-3221, 3380-3390, 3401-3411	Outlines employer requirements for preparation of Illness and Injury Prevention Program, Emergency Action Plan, Fire Prevention Plan, and Personal Protective Equipment Program for construction and operations workers.
Health & Safety Code §25915-25919.7	Outlines requirements for Asbestos Management Plan including employee notification and handling procedures. Applies to presence of asbestos in the existing Units 1 & 2.
Labor Code §142.3	Authorizes the Occupational and Safety Health Board to establish safety standards.
Labor Code §6300 et seq.	Establishes the responsibilities of the Divisions of Occupational Health and Safety.
24 CCR §501 et seq.	Building code established to provide minimum standards to safeguard human life, health, property, and public welfare by controlling design, construction, and quality of materials of building.
California Public Utility Commission General Order No. 112-E	Additional restrictions to govern the California utilities on pipeline safety.
APPLICABLE LAW	**DESCRIPTION**
INDUSTRY STANDARDS	
Uniform Fire Code Standards	Contains provisions necessary for fire prevention and information about fire safety, special occupancy uses, special processes, and explosive, flammable, combustible and hazardous materials.

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GENERAL CONDITIONS
INCLUDING
COMPLIANCE MONITORING AND CLOSURE PLAN

INTRODUCTION

The project General Conditions Including Compliance Monitoring and Closure Plan (Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated, and closed in compliance with air and water quality, public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the California Energy Commission (Energy Commission) and specified in the written decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of elements that:

1. set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
2. set forth the requirements for handling confidential records and maintaining the compliance record;
3. state procedures for settling disputes and making post-certification changes;
4. state the requirements for periodic compliance reports and other administrative procedures that are necessary to verify the compliance status for all Energy Commission approved conditions;
5. establish requirements for facility closure plans; and
6. specify conditions of certification that follow each technical area that contain the measures required to mitigate any and all potential adverse project impacts associated with construction, operation, and closure to an insignificant level. Each specific condition of certification also includes a verification provision that describes the method of assuring that the condition has been satisfied.

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

To ensure consistency, continuity, and efficiency, the following terms, as defined, apply to all technical areas, including Conditions of Certification:

SITE MOBILIZATION

Site mobilization is defined as moving trailers and related equipment onto the site, usually accompanied by min or ground disturbance, grading for the trailers and limited vehicle parking, trenching for construction utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is, therefore, not considered construction.

GROUND DISTURBANCE
Ground disturbance is an onsite activity that results in the removal of soil or vegetation, boring, trenching, or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

GRADING
Grading is an onsite activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving of soil from one area to another.

CONSTRUCTION
Construction is onsite work to install permanent equipment or structures for any facility. [Warren-Alquist Act section 25105] Construction does **not** include the following:

a. the installation of environmental monitoring equipment;

b. a soil or geological investigation;

c. a topographical survey;

d. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; or

e. any work to provide access to the site for any of the purposes specified in a., b., c., or d.

START OF COMMERCIAL OPERATION[5]
For compliance monitoring purposes, "commercial operation" is that phase of project development which begins after the completion of start-up and commissioning, where the power plant has reached steady-state production of electricity with reliability at the rated capacity.

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES
A Compliance Project Manager (CPM) will oversee the compliance monitoring and shall be responsible for:

1. ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;

2. resolving complaints;

3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;

4. documenting and tracking compliance filings; and

5. ensuring that the compliance files are maintained and accessible.

[5] A different definition of "Start of Commercial Operation," may be included in the Air Quality (AQ) section (per District Rules or Federal Regulations). In that event, the definition included in the AQ section would only apply to that section.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints, and amendments.
All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, the approval will involve all appropriate staff and management.
The Energy Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Energy Commission about power plant construction or operation-related questions, complaints or concerns.

Pre-Construction and Pre-Operation Compliance Meeting
The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's conditions of certification to confirm that they have been met. In addition, these meetings shall ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

Energy Commission Record
The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

- all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
- all monthly and annual compliance reports filed by the project owner;
- all complaints of noncompliance filed with the Energy Commission; and
- all petitions for project or condition changes and the resulting staff or Energy Commission action.

PROJECT OWNER RESPONSIBILITIES
It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

COM-1, Unrestricted Access
The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the files and records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally

schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time. All visitors must follow the Owner's standard safety requirements such as wearing appropriate equipment and observing safety rules when inspecting the site.

COM-2, Compliance Record

The project owner shall maintain project files onsite, or at an alternative site approved by the CPM, for the life of the project unless a lesser period of time is specified by the conditions of certification. The files shall contain copies of all "as-built" drawings, all documents submitted as verification for conditions, and all other project-related documents.

COM-3, Compliance Verification Submittals

Each condition of certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions.

Verification of compliance with the conditions of certification can be accomplished by:

1. reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;
2. providing appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of mitigation or other evidence of mitigation.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal. The project owner shall also identify those submittals **not** required by a condition of certification with a statement such as: "This submittal is for information only and is not required by a specific condition of certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All submittals shall be addressed as follows:

Compliance Project Manager
Docket Number
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

If the project owner desires Energy Commission staff action by a specific date, they shall so state in their submittal and include a detailed explanation of the effects on the project if this date is not met.

COM-4, Pre-Construction Matrix and Tasks Prior to Start of Construction

The project owner shall submit to the CPM, prior to commencing construction, a compliance matrix addressing only those conditions that must be fulfilled before the start of construction. This matrix shall be included with the project owner's **first** compliance submittal, and shall be submitted prior to the first pre-construction meeting, if one is held. It will be in the same format as the compliance matrix referenced below.

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times (e.g., 30, 60, 90 days) for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Failure to submit compliance documents within the specified lead-time may result in delays in authorization to commence various stages of project construction.

Verification lead times (e.g., 90, 60 and 30-days) associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

It is important that the project owner understand that the submittal of compliance documents prior to project certification is at the owner's own risk. In such a situation, any approval by Energy Commission staff is subject to change based upon the Commission Decision.

COMPLIANCE REPORTING

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Commission Decision. During construction, the project owner or authorized agent shall submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

COM-5, Compliance Matrix

A compliance matrix shall be submitted to the CPM with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all compliance conditions in a spreadsheet format. The compliance matrix must identify:

1. the technical area;
2. the condition number;
3. a brief description of the verification action or submittal required by the condition;
4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.);
5. the expected or actual submittal date;
6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable;
7. the compliance status of each condition (e.g., "not started," "in progress" or "completed" (include the date); and

8. the project's preconstruction and construction milestones, including dates and status (if milestones are required).

Satisfied conditions do not need to be included in the compliance matrix after they have been identified as satisfied in at least one monthly or annual compliance report.

COM-6, Monthly Compliance Report

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date on which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the **Key Events List. The Key Events List form is found at the end of this section.**

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and five copies (or amount specified by Compliance Project Manager) of the Monthly Compliance Report within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain, at a minimum:

1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification;
4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;
5. a list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to conditions of certification;
7. a listing of any filings with, or permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;
9. a listing of the month's additions to the on-site compliance file;
10. any requests, with justification, to dispose of items that are required to be maintained in the project owner's compliance file; and
11. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolutions of any resolved complaints, and the status of any unresolved complaints.

COM-7, Annual Compliance Report

After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Annual Compliance Report;
4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a listing of filings made to, or permits issued by, other governmental agencies during the year;
7. a projection of project compliance activities scheduled during the next year;
8. a listing of the year's additions to the on-site compliance file;
9. an evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section]; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved complaints, and the status of any unresolved complaints.

COM-8, Construction and Operation Security Plan

At least 14 days prior to commencing construction, a site-specific Security Plan for the construction phase shall be submitted to the CPM for review and approval. At least 30 days prior to the initial receipt of hazardous materials on-site, a site-specific Security Plan for the operational phase shall be submitted to the CPM for review and approval.

Construction Security Plan

The Construction Security Plan shall include the following:

1. site fencing enclosing the construction area;
2. use of security guards;
3. check-in procedure or tag system for construction personnel and visitors;
4. protocol for contacting law enforcement and the CPM in the event of conduct endangering the facility, its employees, its contractors, or public, conduct which is a pre-incident indicator of endangering the facility, its employees, its contractors, or public, or an emergency; and
5. evacuation procedures.

Operations Security Plan

The Operations Security Plan shall include the following:

1. permanent site fencing and security gate;
2. evacuation procedures;
3. protocol for contacting law enforcement and the CPM in the event of conduct endangering the facility, its employees, its contractors, or public, conduct which is a pre-incident indicator of endangering the facility, its employees, its contractors, or public, or emergency;
4. fire alarm monitoring system;
5. site personnel background checks, including employee and routine on-site contractors [Site personnel background checks are limited to ascertaining that the employee's claims of identity and employment history are accurate]. All site personnel background checks shall be consistent with state and federal law regarding security and privacy;
6. site access for vendors; and
7. requirements for Hazardous Materials vendors to prepare and implement security plans as per 49 CFR 172.800 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks as per 49 CFR Part 1572, Subparts A and B.
8. In addition, the Operations Security Plan shall include one or more of the following in order to ensure adequate perimeter security:
   a) security guards;
   b) security alarm for critical structures;
   c) perimeter breach detectors and on-site motion detectors; and
   d) video or still camera monitoring system.

Verification: The Project Owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to the Security Plan. The CPM may authorize modifications to these measures, or may recommend additional measures depending on circumstances unique to the facility, and in response to industry-related security concerns.

COM-9, Confidential Information

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

COM-10, Department of Fish and Game Filing Fee

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of $850. The payment instrument shall be provided to the Energy Commission's Project Manager (PM), not the CPM, at the time of project certification and shall be made payable to the California Department of Fish and Game. The PM will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

COM-11, Reporting of Complaints, Notices, and Citations

Prior to the start of construction, the project owner must provide notification in accordance with **NOISE-1** notifying property owners of a telephone number to contact project representatives with questions, complaints, or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering system with date and time stamp recording. All recorded inquiries shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

http://www.energy.ca.gov/sitingcases/power_plants_contacts.html

Any changes to the telephone number shall be submitted immediately to the CPM who will update the web page.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. All complaints shall be recorded on the complaint form, such as Attachment A.

Facility Closure

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made that provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. Laws, Ordinances, Regulations and Standards (LORS) pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place, planned closure, unplanned temporary closure and unplanned permanent closure**.**

Closure Definitions

Planned Closure

A planned closure occurs at the end of a project's life, when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

Unplanned Temporary Closure

An unplanned temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster or an emergency.

Unplanned Permanent Closure
An unplanned permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unplanned closure where the owner remains accountable for implementing the on-site contingency plan. It can also include unplanned closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

General Conditions for Facility Closure

COM-12, Planned Closure
In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.
The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.
In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.
As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities, until Energy Commission approval of the facility closure plan is obtained.

COM-13, Unplanned Temporary Closure/On-Site Contingency Plan
In order to ensure that public health and safety and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to

mitigate public health and safety impacts and environmental impacts are taken in a timely manner.

The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less that 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days, unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment and the safe shutdown of all equipment. (Also see the analysis for the technical areas of Hazardous Materials Management and Waste Management.)

In addition, consistent with requirements under unplanned permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.
In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

COM-14, Unplanned Permanent Closure/On-Site Contingency Plan
The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the unlikely event of abandonment.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall

take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

CBO Delegation and Agency Cooperation
In performing construction monitoring of the project, Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Commission staff retains CBO authority when selecting a delegate CBO including enforcing and interpreting state and local codes, and use of discretion, as necessary, in implementing the various codes and standards.

Commission staff may also seek the cooperation of state, regional and local agencies that have an interest in environmental control when conducting project monitoring.

Enforcement
The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Energy Commission Decision. The specific action and amount of any fines the Energy Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, oversight, unforeseeable events, and other factors the Energy Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable LORS, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

Noncompliance Complaint Procedures
Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

Informal Dispute Resolution Procedure
The following procedure is designed to informally resolve disputes concerning the interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et seq., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

Request for Informal Investigation
Any individual, group, or agency may request that the Energy Commission conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and, within seven working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within 48 hours, followed by a written report filed within seven days.

Request for Informal Meeting
In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not

been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

Formal Dispute Resolution Procedure-Complaints and Investigations
If the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et seq. The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Energy Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Cal. Code Regs., tit. 20, §§ 1232-1236).

POST CERTIFICATION CHANGES TO THE ENERGY COMMISSION DECISION: AMENDMENTS, insignificant project CHANGES AND VERIFICATION CHANGES

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to delete or change a condition of certification, modify project design, operation or performance requirements, and to transfer ownership or operational control of the facility.

A petition is required for amendments and for insignificant project changes as specified below. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of approval process applies are explained below.

Amendment
A proposed project modification will be processed as an amendment if it alters the intent or purpose of a condition of certification, has potential for significant adverse environmental impact, or may violate applicable laws, ordinances, regulations or standards. The full Commission must approve formal amendments. The project owner shall file a petition in accordance with Title 20, California Code of Regulations, section 1769 (a).

Change of ownership or operational control also requires that the project owner files a petition, and obtains full Commission approval, pursuant to section 1769 (b).

Insignificant Project Change
If a proposed modification does not alter the intent or purpose of a condition of certification, does not have potential for significant adverse environmental impact, does not violate applicable laws, ordinances, regulations, or standards, or does not result in an ownership change, it will be processed in accordance with Section 1769(a)(2). In this regard, as specified in Section 1769(a)(2), Commission approval is not required.

The CPM shall file a statement that staff has made such a determination with the Commission Docket and mail a copy of the statement to every person on the project's post-certification mailing list.

Any person may file an objection to staff's determination within 14 days of service on the grounds that the modification does not meet the criteria in section 1769 (a) (2). If an objection is received, the petition must be processed as a formal amendment to the final decision and must be approved by the full Commission at a noticed business meeting or hearing.

Verification Change

The proposed change will be processed as a verification change if it involves only the language in the verification portion of the condition of certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment. The CPM may initiate a verification change.

COM-6, KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION	DATE
Certification Date/Obtain Site Control	
Online Date	
POWER PLANT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Grading	
Start Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
First Combustion of Gas Turbine	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	
Start T/L Construction	
SYNCHRONIZATION WITH GRID AND INTERCONNECTION	
COMPLETE T/L CONSTRUCTION	
FUEL SUPPLY LINE ACTIVITIES	
Start Gas Pipeline Construction and Interconnection	
COMPLETE GAS PIPELINE CONSTRUCTION	
WATER SUPPLY LINE ACTIVITIES	
Start Water Supply Line Construction	
Complete Water Supply Line Construction	

ATTACHMENT A
COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: AFC Number:
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number:
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of Energy Commission requirement: Date complainant contacted to discuss findings:
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date completed: Date first letter sent to complainant: (copy attached) Date final letter sent to complainant: (copy attached)
This information is certified to be correct. Plant Manager's Signature: Date:

(Attach additional pages and supporting documentation, as required.)

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OVERRIDE

For the sake of consistency between proceedings, this section of the Decision parallels a similar section in the Morro Bay AFC (00-AFC-14) Decision interpreting and implementing the "override" provision of the Warren-Alquist Act, vis-à-vis the Coastal Act.

Sections 25523(d)(1) and 25525

As discussed above in **BIOLOGY**, section 25523(**d**)(1) requires the Energy Commission to find whether a proposed facility complies with all applicable laws including, when a facility is proposed in the coastal zone, compliance with the Coastal Act and with local coastal plans. If the Commission finds noncompliance, then section 25525 requires the Energy Commission to "consult and meet with the [Coastal Commission] to attempt to correct or eliminate the noncompliance". If, after that, the proposed facility still does not comply, the Energy Commission may certify the facility only if it determines that the proposed facility "is required for public convenience and necessity and that there are not more prudent and feasible means of achieving such public convenience and necessity."

Those determinations are solely within the province of the Energy Commission. The Energy Commission gives great weight to the assessment of the Coastal Commission on the compliance of proposed facilities with the Coastal Act (just as the Energy Commission also gives great weight to the assessment of other agencies on the compliance of proposed facilities with the laws that they administer), but the Energy Commission is ultimately responsible for making the determinations, based on the evidence in its record.

As discussed in the **LAND USE** section of this Decision, based upon our independent analysis of all the evidence of record, we have determined that the project, as conditioned, will conform to all applicable land use laws, ordinances, regulations, and standards, including applicable provisions of the Coastal Act and the City of El Segundo's Local Coastal Program (LCP).

We have further determined that two Coastal Commission Reports pursuant to Public Resources Code section 30413(b) do not apply in a stand-alone AFC and do not compel the Energy Commission to adopt the recommendations of the Coastal Commission in this case, namely a pre-certification 316(b) study and implementation of the Hyperion Wastewater Cooling Alternative. Instead, based on the weight of evidence, we have independently determined that the project does substantially comply with the Coastal Act by virtue of the post-certification 316(b) study pursuant to Condition **BIO-4** and since the Hyperion Wastewater Cooling Alternative is infeasible and more harmful to the environment.

However, to remove all doubt regarding the ability of this Decision to allow the project to proceed and out of an abundance of caution, we have performed the "override" analysis and made the findings required by Public Resources Code section 25525 to specifically override any portion of the Coastal Act that might potentially prohibit construction and operation of the project.

Section 25525 and the Override

Where the Commission considers the licensing of a project that does not conform to state or local laws, ordinances, regulations, or standards (LORS), the Commission cannot license that project unless it determines "that such facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving such public convenience and necessity." (Pub. Resources Code § 25525.) This determination must be made based on the totality of the evidence of record and consider environmental impacts, consumer benefits, and electric system reliability. In essence, the statutory override scheme requires separate and different findings, balancing of benefits and impacts, as well as the consideration of feasible alternatives. We address these matters in the following discussion.

As we have explained in the various sections of this Decision, we have concluded that the El Segundo Redevelopment Project will not create any significant adverse environmental effects. We have also, in each topic area, evaluated the evidence of record and explained our reasoning as to why we were not persuaded that the project would in fact create significant adverse impacts.

Even were we to have concluded differently concerning the significance of Aquatic Biology impacts as urged by Staff, the Coastal Commission and the environmental Intervenors, the evidence conclusively establishes the benefits attributable to the project, and does not persuasively suggest that the project, as mitigated with our Conditions of Certification, would create an impact so significant as to prevent it being constructed and operated. Therefore, the weight of the evidence of record would compel us to find and conclude that the El Segundo Redevelopment Project provides, on balance, a level of comparative benefit.

This stems largely from the facts in the evidentiary record that the project will use the existing power plant infrastructure and construct a cleaner, more efficient plant than now exists. The proposed project will have a reduced visual impact; will reduce the rate of marine species entrainment with the flow cap of Condition **BIO-3;** will fund the feasibility study of the aquatic filter barrier (**BIO-2**); and will donate $1 million to the Santa Monica Bay Restoration Commission (**BIO-1**). Moreover, the Energy Commission's current Integrated Energy Policy Report (IEPR) has determined that under certain circumstances, the state may require additional electrical generation as soon as the year 2006, which is approximately when this project would probably come on line. Therefore, state policy currently favors the construction of additional generating capacity.

Section 25525 (LORS Override)

Public Resources Code section 25525 provides in pertinent part:

> The commission shall not certify any facility when it finds... that the facility does not conform with any applicable state, local, or regional standards, ordinances, or laws, unless the commission determines that such facility is required for public convenience and necessity and that there are not more prudent and

> feasible means of achieving such public convenience and necessity. In making the determination, the commission shall consider the entire record of the proceeding, including, but not limited to, the impacts of the facility on the environment, consumer benefits, and electric system reliability.

This statutory provision, especially when read in conjunction with other provisions of the Public Resources Code (see, e.g., §§ 25001, 25005, 25006), conclusively establishes that the Legislature has declared that the siting of thermal power plants in excess of 50 megawatts is a matter of state interest. For present purposes, this means that the Commission has the authority to supersede the regulatory capacities of other governmental jurisdictions (such as the California Coastal Commission) and, in accordance with section 25525, license a power plant even though it may not comply with all state or local LORS.

The statute recognizes that a LORS noncompliance does not necessarily equate with the creation of a significant adverse environmental impact under CEQA. The emphasis is simply on a different concern. In order to address the override/noncompliance issue, section 25525 directs us to determine two things: whether a project is required for "public convenience and necessity" and whether there are not "more prudent and feasible means of achieving such public convenience and necessity."[6] These are discussed below.

Public Convenience and Necessity

While there is no judicial decision interpreting section 25525, numerous decisions address the phrase "public convenience and necessity" as it appears in Public Utilities Code section 1001. This phrase is used in a similar context in both statutes and, absent evidence of legislative intent to the contrary, is presumed to have a similar meaning for present purposes. *(Building Material & Construction Teamsters' Union* v. *Farrell* (1986) 41 Cal.3d 651, 665.) It is well-settled by judicial decisions on Section 1001 that "public convenience and necessity" has a broad and flexible meaning, and that the phrase "cannot be defined so as to fit all cases." (*San Diego & Coronado Ferry Co.* v. *Railroad Commission (1930)* 210 Cal. 504.) In this context, "necessity" is not used in the sense of something that is indispensably requisite. Rather, any improvement which is highly important to the public convenience and desirable for the public welfare may be regarded as necessary. It is a relative rather than absolute term whose meaning must be ascertained by reference to the context and the purposes of the statute in which it is found. (See, *San Diego Ferry* at p. 643.)

In assessing whether or not the El Segundo Redevelopment Project is required for public convenience and necessity, we must logically first ascertain whether this project is reasonably related to the goals and policies of our enabling legislation. The Warren-Alquist Act expressly recognizes that electric energy is essential to the health, safety, and welfare of the people of California, and to the state's economy. Moreover, the statute declares that it is

[6] Section 25525 specifies that we examine the entire record, and also specifies that we make our determinations based upon the effects of the facility on the environment, consumer benefits, and electric system reliability. We also note that we are not limited to only these three factors, and believe the criteria set forth in the Commission's Decision on the Geysers Unit 16 project remain relevant. (Docket No. 79-AFC-5 (Sept. 30, 1981), Pub. No. P800-81-007; see, pp. 104-105.)

the responsibility of state government to ensure that the state is provided with an adequate and reliable supply of electrical energy. (Pub. Resources Code § 25001.)

The evidence of record conclusively establishes that the project will make use of the existing El Segundo Generating Station infrastructure while reducing impacts of the existing plant on the El Segundo and Manhattan Beach communities. The project will generate electrical energy, and that that energy will be consumed in the local area.

The statute does not, however, focus on public convenience and necessity solely in a limited geographical context. Rather, the focus is on electricity's essential nature to the welfare of the state as a whole. This logically not only includes a specific area, but also recognizes the interconnected nature of the electrical grid and the interdependence of the people and the economy in one sector of the state upon the people and the economy in the balance of the state. The evidence also establishes that the project's duct-firing capability will provide the electrical system with flexible peaking capacity that is necessary to keep the electrical grid stable. Furthermore, the Commission's Integrated Energy Policy Report recognizes the need for increased supplies of electrical energy throughout the state within the next few years.

We believe the conclusion is inescapable that electrical energy is essential to the functioning of contemporary society. Since the El Segundo Redevelopment Project will provide a portion of the electrical energy supply essential to the well-being of the state's citizens and its economy, we conclude that this project is required for public convenience and necessity within the meaning of section 25525.

More Prudent and Feasible Means

There is no clear or meaningful distinction between the words "prudent" and "feasible" as used in section 25525.[7] Under the Warren-Alquist Act, the existence of a "prudent and feasible" means of achieving the public convenience and necessity does not prevent an override; only the existence of a "more prudent and feasible" means prevents the Commission from overriding LORS.[8] In making this determination, we must balance a variety of relevant factors, including the project's impacts upon the environment, consumer benefits, and electric system reliability as specified in the statute, while giving substantial but not overwhelming weight to avoiding LORS noncompliance. We have essentially performed an analogous exercise in our **ALTERNATIVES** discussion. However, in order to more specifically address the enumerated statutory factors, we will briefly recap it here.

[7] We note that CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Resources Code § 21061.1; see also, 14 Cal. Code of Regs., §15361 which adds "legal" to the list of factors.) However, even using the CEQA definition, it appears that any "prudent" alternative would have to be "feasible" -- or, in other words, any alternative that is *not* "capable of being accomplished in a successful manner with in a reasonable period of time" would not be "prudent."

[8] This is different from the CEQA standard which, as we have explained previously, does not require choice of the *best* project alternative as long as a project is acceptable. In the override circumstance, the statute requires that any alternative means of serving public convenience and necessity be *better* than that proposed.

Environmental Impacts

As explained in each of the preceding portions of this Decision, we have found that the project will not create any significant direct or cumulative adverse environmental impacts. Furthermore, we have specified numerous mitigation measures and Conditions of Certification to ensure that all of the project's impacts are reduced to below levels of significance. In some areas, we have imposed additional mitigation to ensure that the project will comply with applicable standards. In others, we have chosen between differing ways of mitigating identified impacts. In each instance we have based our determinations on what we perceive to be the persuasive weight of the evidence of record.

Some of the findings noted elsewhere in this Decision regarding the project's benefits to the environment are repeated below:

- The project will be located on the site of the existing El Segundo Generating Station and will include removal of the existing tank farm to reduce visual impacts.
- The project's reduced stack height and site location will reduce existing visual impacts.
- The project's fuel efficiency using duct firing compares favorably with alternative means of producing peaking power.
- The project will reduce cooling water intake with a flow cap, thus reducing impingment and entrainment impacts on marine resources.
- The project will prepare a feasibility study for the first-time use of an aquatic filter barrier in an open-ocean setting.
- The project will contribute $1 million to the Santa Monica Bay Restoration Commission for the projects or studies that aid in the restoration of Santa Monica Bay.
- The project will reduce impingement impacts by at least 80 percent and entrainment impacts by at least 60 percent below unmitigated levels in compliance with new federal Clean Water regulations, which also require a new site-specific 316(b) study.

Consumer Benefits

In addition, the record contains persuasive evidence that the project will result in increased revenue to the City of El Segundo and other local jurisdictions from taxes, employment, and sales of services, manufactured goods, and equipment.

Electric System Reliability

The project will serve local electrical loads. It will replace 50 year-old generation technology with modern, efficient generation. In addition, the project's duct firing provides the electrical system with flexible peaking capacity that is necessary to keep the grid stable.

These matters are not seriously disputed. We have examined alternatives and found that no feasible alternative sites or technologies reasonably meet the project objectives. In addition, we have extensively examined alternative cooling options and found that none are feasible at the proposed site. These contentions are essentially the same as those in the **ALTERNATIVES** and **BIOLOGY - Hyperion Wastewater Cooling Alternative**, above. What is most pertinent, for present purposes, is whether or not we are convinced that there is a more prudent and feasible means, when compared with the project, of achieving similar public convenience and necessity.

As summarized in the **ALTERNATIVES** section, we have conducted a review of alternative technologies, fuels, and the "no project" alternative and found that no feasible technology alternatives such as geothermal, solar, hydroelectric, or wind resources are capable of meeting project objectives. Moreover, the use of alternative generating technologies would not prove efficient, cost-effective or mitigate any significant environmental impacts to levels of insignificance. Plus, no significant environmental impacts would be avoided under the "no project" alternative. The use of a dry cooling alternative reviewed in our record is infeasible on the project site and would cause greater noise and visual impacts to the neighboring communities.

As discussed in the **BIOLOGY** section, a combination of engineering, environmental, and economic problems associated with the Hyperion Wastewater Cooling Alternative render it infeasible and environmentally more harmful that the project.

The net result of the potential use of any of the alternative sites or alternative cooling options thus appears to us to be reasonably likely to create potential problems at least comparable to or greater than those encountered by the proposed project. On balance, the various alternative proposals do not, in our estimation, equate with a more prudent and feasible means of achieving public convenience and necessity.

The record adequately reflects that the Applicant, the Coastal Commission and the Staff have repeatedly discussed methods of satisfying applicable Coastal Act LORS. Nevertheless, the Coastal Commission determined that the specific provisions contained in its two Reports are necessary for the project to comply with the Coastal Act, namely a pre-certification 316(b) study and implementation of the Hyperion Wastewater Cooling Alternative. We have found that these Reports are not mandated in a stand-alone AFC. Notwithstanding, we have attempted to balance the project's benefits against the purposes and provisions of the Coastal Act LORS, with which the Coastal Commission asserts the project does not comply. We have required Condition **BIO-4**, which specifies a post-certification 316(b) study under the direction of the LARWQCB. However, on the basis of our extensive evidentiary record, we cannot concur with the Coastal Commission that the Hyperion Wastewater Cooling Alternative is feasible.

Therefore, we specifically override any provisions of the Coastal Act that would prohibit construction and operation of the El Segundo Redevelopment Project at the proposed location.

FINDINGS AND CONCLUSIONS

Based upon the totality of the evidence of record, and specifically considering the factors enumerated in Public Resources Code section 25525, we make the following findings and reach the following conclusions:

1. The El Segundo Redevelopment Project is required for public convenience and necessity.

2. We have assessed whether there are more prudent and feasible means of achieving public convenience and necessity by balancing a variety of factors, including the project's environmental impacts, consumer benefits, and electric system reliability.

3. The project will not create significant direct or cumulative adverse environmental impacts

4. There are no more prudent and feasible means of achieving public convenience and necessity similar to that provided by the project.

5. Applicant and Staff have met with representatives of the Coastal Commission in an attempt to resolve any potential LORS noncompliance.

6. We have imposed various measures through the Conditions of Certification contained in this Decision to avoid noncompliances with applicable LORS, to achieve compliance with applicable LORS to the extent feasible, and to bring the project into compliance with applicable LORS.

Therefore, as provided in Public Resources Code section 25525, we conclude that it is necessary to override any provision of the Coastal Act, which would prohibit construction and operation of the project at the site discussed herein.

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ADOPTION ORDER

The Commission adopts this Decision on the El Segundo Power Redevelopment Project and incorporates the Presiding Member's Proposed Decision. This Decision is based upon the record of the proceeding (Docket No. 00-AFC-14).

The Commission hereby adopts the following findings in addition to those contained in the accompanying text:

1. The Conditions of Certification contained in this Decision, if implemented by the project owner, ensure that the whole of the project will be designed, sited and operated in conformity with applicable local, regional, state, and federal laws, ordinances, regulations, and standards, including applicable public health and safety standards, and air and water quality standards.

2. Implementation of the Conditions of Certification contained in the accompanying text will ensure protection of environmental quality and assure reasonably safe and reliable operation of the facility. The Conditions of Certification also assure that the project will neither result in, nor contribute substantially to, any significant direct, indirect, or cumulative adverse environmental impacts.

3. Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.

4. The record does not establish the existence of any environmentally superior alternative site.

5. The analysis of record assesses all potential environmental impacts associated with the project.

6. This Decision contains measures to ensure that the planned, temporary, or unexpected closure of the project will occur in conformance with applicable laws, ordinances, regulations, and standards.

7. As provided in Public Resources Code section 25525, it is necessary to override any provision of the Coastal Act, which would prohibit construction and operation of the project at the site discussed herein.

8. The proceedings leading to this Decision have been conducted in conformity with the applicable provisions of Commission regulations governing the consideration of an Application for Certification and thereby meet the requirements of Public Resources Code, sections 21000 et seq., and 25500 et seq.

Therefore, the Commission **ORDERS** the following:

1. The Application for Certification of the El Segundo Power Redevelopment Project in El Segundo, California, as described in this Decision, is hereby approved, and a certificate to construct and operate the project is hereby granted.

2. The approval of the Application for Certification is subject to the timely performance of the Conditions of Certification and Compliance Verifications enumerated in the accompanying text. The Conditions and Compliance Verifications are integrated with this Decision and are not severable therefrom. While the project owner may delegate the performance of a Condition or Verification, the duty to ensure adequate performance of a Condition or Verification may not be delegated.

3. The Commission hereby adopts the Conditions of Certification, Compliance Verifications, and associated dispute resolution procedures as part of this Decision in order to implement the compliance monitoring program required by Public Resources Code section 25532. All Conditions in this Decision take effect immediately upon adoption and apply to all construction and site preparation activities including, but not limited to, ground disturbance, site preparation, and permanent structure construction.

4. The Commission uses its authority as provided in Public Resources Code section 25525 to override any provision of the Coastal Act which would prohibit construction and operation of the project at the site discussed herein.

5. The decision is adopted on (date), consistent with Public Resources Code section 25530 and California Code of Regulations, title 20, section 1720.4.

6. Any petition requesting Commission reconsideration of this Decision (or any determination by the Commission on its own motion to reconsider) shall be filed and served on (date), which is no later than 30 days after the date of adoption. (Pub. Resources Code section 25530.)

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7. Judicial review of certification decisions is governed by Section 25531 of the Public Resources Code.

8. The Executive Director of the Commission or delegatee shall transmit a copy of this Decision and appropriate accompanying documents as provided by Public Resources Code section 25537 and California Code of Regulations, title 20, section 1768.

Dated _____, at Sacramento, California.

_____
WILLIAM J. KEESE
Chairman

_____
ARTHUR H. ROSENFELD
Commissioner

_____
JAMES D. BOYD
Commissioner

_____
JOHN L. GEESMAN
Commissioner

_____